

ECONOMY  
OF  
THE TEETH, GUMS,  
AND  
Interior of the Mouth.



BY THE AUTHOR OF  
"ECONOMY OF THE HANDS AND FEET."


"Good Teeth, independent of their great utility, are essential to Female Beauty."



ECONOMY OF THE TEETH,

&c.





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ECONOMY OF THE TEETH.

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ECONOMY  
OF  
THE TEETH, GUMS,  
AND  
**Interior of the Mouth;**  
INCLUDING THE  
MEDICAL, MECHANICAL, AND MORAL TREATMENT OF THE MOST FRE-  
QUENT DISEASES AND ACCIDENTS INCIDENTAL TO THE STRUC-  
TURE AND FUNCTIONS OF THOSE DELICATE PARTS :  
WITH THE  
MEANS OF CORRECTING AND PURIFYING  
**A Tainted or Unpleasant Breath,**  
OR  
*OTHER PERSONAL OR ATMOSPHERICAL EFFLUVIA*  
Arising from  
LOCAL OR CONSTITUTIONAL CAUSES OR INJURIES.

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BY THE AUTHOR OF  
“ECONOMY OF THE HANDS AND FEET.”

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“In your person you should be accurately clean; and your teeth should be superlatively so;—a dirty mouth has real ill consequences to the owner, for it infallibly causes the decay, as well as the intolerable pain, of the teeth.”—*Chesterfield*.

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**ECONOMY**  
OF THE  
**MOUTH AND ORGANS OF TASTE.**

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**SECT. I.**

**THE MOUTH AND ORGANS OF TASTE.**

TASTES are perceived by the tongue, and partially by the other neighbouring cutaneous parts of the mouth, especially by the soft palate, the fauces, the interior of the cheeks, and lips : by the latter, however, we taste only what is acrid and bitter. The chief organ of taste is the tongue. The sense of taste is most acute at the apex, or tip of the tongue. The papillæ, which are the medium of taste, are furnished with filaments of the lingual branch of the fifth pair of nerves ; and through them the tongue probably acquires the sense of tasting. In order that the tongue may taste properly, it must be moist, and the substance to be tasted must be liquid, holding salts in solution ; for, if either be in a dry

state, we may perceive the presence of the substances by the sense of touch, but not be able to discover their sapid qualities. When the tongue tastes, very accurately, the papillæ, or little eminences around its apex and margins, are in some degree erected.

It is evident, therefore, from what has been said on the subject of taste, that disease may considerably impair, if not entirely destroy this sense. The taste of an individual who has lost the soft palate of his mouth, which is frequently the case from the secondary symptoms of a certain disease and the abuse of mercury, cannot be so perfect as where this appendage is in a sound state; or where the fauces have been partially disorganized from the same cause, or where the acuteness of the papillæ has been blunted from the use of excessive stimuli. Division, or paralysis of the lingual nerves, would be productive of the total annihilation of the sense of taste.

The lower jaw is the chief organ in chewing the food; and it is furnished, as well as the upper, with three orders of teeth, of which we shall presently speak. During the act of chewing, there occurs a flow of saliva, which is

a spumous fluid, consisting of a large portion of water united with a portion of albumen, and holding in solution a small quantity of phosphate of lime;—the source of the tartar of the teeth and salivary calculi. From being constantly applied to the tongue, the saliva is insipid, although upon analysis it is found to contain some microcosmic salt, as well as muriatic, and invariably oxalic, acid.

The saliva flows from three orders of conglomerate glands, placed laterally and interiorly with respect to the lower jaw. The principal glands for this purpose are the parotids, which secrete the saliva behind the middle grinders of the upper jaw, through a channel called the Stenonian duct,—from Steno, the name of its discoverer; the submaxillary glands send the saliva into the mouth through a channel discovered by Wharton, and which also bears his name; and the sublingual, or glands lying under the tongue, through numerous ducts or channels discovered by Rivinius, and which also are distinguished by his name.

The excretion of saliva, according to the arbitrary statement of Nuck, amounting to a

pound in twelve hours, is augmented by stimuli and by mechanical pressure, and, if the expression be allowed, as Blumenbach terms it, by emulsion. The latter cause, greatly favoured by the situation of the parotid glands at the articulation of the jaws, occurs when we chew hard substances, which thus become softened. The former arises from the presence of acrid matters, which are thus properly diluted; or from the imagination, as when the mouth waters during the desire for food.

The mucus secreted by the glands of the lips, cheeks, and tongue, as well as the moisture which transcends from the soft part of the mouth, is blended with the saliva. This mixture of fluids, poured upon a substance we are chewing, renders it not only a pultaceous and easily swallowed bolus, but likewise prepares it for further digestion by the action of the gastric juice in the stomach, which is the organ of digestion; and where we now propose to leave it, to examine the structure of the teeth, and their fitness for the office to which they are appointed; as well as the diseases to which they are liable, and the remedies suggested either by medicine or art for their removal.

## SECT. II.

## ON THE STRUCTURE OF THE TEETH.

THE teeth are small longish bones, smooth and hard, inserted into their sockets in the same manner, comparatively, as a nail is driven into a piece of wood.

In young children the teeth begin to appear about the seventh or eighth month, often sooner. Their number is generally sixteen above, and as many below—though some people have more, others fewer.

The broad thick part of each tooth, which appears without the socket above the gums, is called the base or body of it. The smaller processes sunk into the jaws are the roots or fangs, which become gradually smaller towards the farthest end from the base, or are nearly of the shape of a cone, by which the surface of their sides divides the pressure made on the basis, to prevent the soft parts, which are at the small points of the sockets, being hurt

by such pressure. At the place where the base ends, and the roots begin, there is generally a small circular depression, which some call the neck or collar of the tooth.

The external parts of the teeth are said to have no periosteum, or covering membrane; but this is supplied by the reflected membrane of the gums. The adhesion of this membrane to these roots is strengthened by the small furrows observable on them.

Each tooth is composed of its cortex, or enamel, and an internal bony substance.

The enamel has no cavity or place for marrow, as the other cylindrical bones; and is so solid or hard, that saws or files can with difficulty make impression on it. The enamel is thickest on the base or top of each tooth, and, gradually, as the roots turn smaller, becomes thinner, but not proportionally to the difference of the size of the base of the roots. The fibres of this enamel are all perpendicular to the internal substance, and are strongest on the base, but at the sides are arched with a convex side towards the roots, which enables the teeth to resist the compression of any hard



body between the jaws, with less danger of breaking these fibres, than if they had been situated transversely.

The spongy sockets in which the teeth are placed, likewise serve better to prevent such an injury than a more solid base would have done. Notwithstanding the great hardness of this enamel, it is wasted by manducation. Hence, the sharp edges of some teeth are blunted and made broad, while the rough surfaces of others are made smooth and flat, as people advance in life.

The bony part of the teeth has its fibres running straight, according to the length of the teeth. When it is exposed to the air, by the breaking or falling-off of the hard enamel, it soon corrupts; and these decayed teeth are all hollow within, a very small hole appearing only externally.

The teeth have canals formed in their middle, wherein nerves and blood-vessels are lodged; which they certainly need, being constantly wasted by the attrition they are subjected to in chewing, and for their farther growth, not only after they first appear, but

even in adults, as is evident when a tooth is taken out, for then the opposite one becomes longer, and those on each side of the empty socket turn broader ; so that, when the jaws are brought together, it is scarcely observable where the tooth is wanting.

The teeth are plentifully supplied with vessels, as may be seen by injection, which exposes them to the same disorders that attack other vascular parts ; and such teeth as have the greatest number of vessels stand the greatest chance of being attacked with these diseases.

The root of every tooth has a distinct canal, with vessels and nerves. Those canals in the teeth which have more than one root, come nearer each other as they approach the base of the tooth, and at last are separated by very thin plates, which, being generally incomplete, allow a communication of all the canals ; and frequently only one common cavity appears within the base, in which a pulpy substance, composed of nerves and vessels, is lodged. The condition, therefore, of the nerves, here, bears a strong analogy to that of the nerves of the skin, which serve for the sense of touch.

The entrance of the canals for these vessels is a small hole, placed a little on one of the extreme points of each root; sometimes, especially in old people, this hole is entirely closed up, and, consequently, the nerves and blood-vessels are destroyed.\*

The teeth are seen for a considerable time in the form of mucus contained in a membrane, afterwards a thin cortical plate; and some few bony layers appear within the membrane, with a large cavity filled with mucus in the middle. This exterior still gradually becomes thicker, the cavity decreases, the quantity of mucus is lessened, and this induration proceeds till all the body of the tooth is formed, from which the roots are afterwards produced.

In young subjects, different stamina or rudiments of teeth are to be observed. Those next the gums hinder ordinarily the deeper-seated ones from making their way out, while these prevent the former from sending out roots, or from entering deeply into the bony socket of the jaws, by which means they become fixed.

\* De la Hire.—Histoire de l'Acad. des Sciences. 1699.

*Teeth as regards New-Born Infants and Children.*

Children are seldom born with teeth; but at two years of age they have twenty; and their number does not increase till they are about seven years old, when the teeth that first made their way through the gums are thrust out by others that have been formed deeper in the jaw; and some more of the teeth begin to discover themselves farther back in the mouth. About the age of fourteen, more of the first crop are again shed, and the number is increased.

This shedding of the teeth is of good use; for, if the first had remained, they would have stood at a great distance one from another; because the teeth are too hard in their outer crust, to increase so fast as the jaws do: whereas, both the second layer, and the teeth that come out late, meeting, while they are soft, with considerable resistance to their growth in length, from those situated upon them, necessarily come out broad, and fit them to make that close guard to the mouth which they now form.

The teeth fixed in the sockets, as before observed, the gums contribute to retain them there, as is evident by the teeth falling out when the gums are in any manner destroyed, or made too spongy, as in the scurvy, or salivations produced by mercury.

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## SECT. III.

## THE USES AND DIVISIONS OF THE TEETH.

THE uses of the teeth are to chew our food, and assist us in the pronunciation of several letters.

Though the teeth so far agree in their structure, yet, because of some things wherein they differ, they are generally divided into three classes—namely :—

1. Incisores, or cutting-teeth ;
2. Canini, or dog-teeth ;
3. Molares, or grinders.

1. *Of the Incisores, or Cutting Teeth.*

The incisores, or cutting-teeth, are the four front teeth in each jaw, which receive their name from the office they perform of cutting or incising our food ; for which purpose they are excellently adapted, each being formed into a sharp-cutting edge at its base or top, by their

fore-side turning inward there, while they are sloped down and hollowed behind; so that they have the form of wedges. Their power of acting, therefore, must be considerably increased. And as, in the action of the incisors, a perpendicular compression only is necessary, without any lateral motion, they are not so firmly fixed in their sockets as the other teeth, each having only one short root, which is broader from before backwards, than to either side, that it may have the greatest strength where opposed to the strongest force.

The incisors of the upper jaw, especially the two middle ones, are broader and longer, generally, than those of the under jaw.

In a new-born infant, the outer shell of the body of these teeth is only hardened.

Afterwards, when the stamina of two sets are formed, each has its own socket, those nearest to the edge of the gums being placed more forward; and the others are lodged farther back within the jaws.



## 2. *Canini, or Dog Teeth.*

These are called canini from their resemblance to the tusks of dogs, and consist of one on each side of the incisors in each jaw. The two canini in the upper jaw are called *eye-teeth*, from the communication of nerves which is said to exist between them and the eyes. The two in the lower jaw are named *angular*, or *wike-teeth*, because they support the angles of the mouth.

The dog-teeth are broader, longer, and stronger, than the incisors. Their bases are formed into a sharp edge, as the incisors are ; only that the edge rises into a point in the middle. Each of them has generally but one long root, though sometimes they have two. The roots are crooked towards the end. The canini of the upper jaw are larger, longer, and have more crooked roots, than those of the under jaw. The form of their base is fitted for piercing and cutting, and the long crooked root of each makes it secure in its socket.

The canini, or dog-teeth, of a child, are in much the same condition as the incisors.

### 3. *Molares, or Grinders.*

These derive their name from their office in grinding the food. They generally consist of five in number, on each side of each jaw, superior and inferior, making twenty in all. Their bases, or outer extremities, are broader, more scabrous, and have thinner enamel, than the other teeth. They have also more roots; and, as these roots generally divaricate from each other, the partitions of the sockets between them bear a large share of the great pressure they suffer, and prevent it from acting on their points.

The base of the first grinder has an edge pointed in the middle, on its outside, resembling the dog-teeth, from which it slopes inward till it rises again to a point. It has generally but one root, which is sometimes long, and crooked at its point.

The second grinder has two points on its base, rising nearly equal on its outer and inner side. It has two roots, either separate or running together, but shorter than the root of the first. These two anterior grinders are much

smaller than the three that are placed farther back in the mouth.

The third and fourth are very broad in their bases, with four or five points standing out; and they have three or more roots.

The fifth grinder, commonly called the tooth of wisdom, from its coming through the gums later than the other grinders, has four points on its base, which is not so large as the base of the third and fourth, and its roots are less numerous.

The incisors of the upper jaw being broader than those of the lower, cause the superior grinders to be placed so much farther back than the lower ones, that, when they are brought together, by shutting the mouth, the points of the grinders of the one jaw enter into the depressions of the opposite grinders, and they are nearly equally applied to each other, notwithstanding the inequality of their surfaces.

The numerous roots of the molar teeth prevent them from loosening by the lateral pressure they suffer in grinding; and, as the sockets in the upper jaw are more spongy, and the teeth more liable, by their situation, to fall

out, the grinders there have more numerous and more separated roots than in the lower jaw. The number, however, of the roots of the teeth of both jaws is very uncertain: sometimes they are more, sometimes they are fewer; frequently, several roots are joined together; at other times, they are all distinct. The disposition of such as are distinct is also various; for, in some, the roots stand out straight—in others, they separate—and in others, again, they are crooked inwards. When the roots are united, we can still distinguish them, by remarking the number of small holes at their points, which determine the number of roots each tooth may be reckoned to have.

At the time of birth, only two grinders in each jaw have begun to ossify; and that at little more than the base, which has several sharp points standing out from it. The temporaneous grinders are placed more directly upon the internal set than the other two classes are. In some children, there is a piece of the bone of the jaws between the other two sets; in others, the two sets have no bone interposed between them.

Thus far on the structure of the teeth in the human being. We shall now give some account of those animals, from which their habits, inclinations, and the diet on which they feed, may be deduced.

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## SECT. IV.

## STRUCTURE OF THE TEETH IN VARIOUS ANIMALS.

SOME animals have their incisors, or cutting-teeth, long and sharp—their canini, or dog-teeth, long and crooked—and their grinders, unequal and pointed—as bears, boars, lions, tigers, squirrels, cats, dogs, and others ; all of which are carnivorous animals, some partially omnivorous. Their grinders serve for mastication, and the comminution of their prey; the incisors, to cut it; and the dog-teeth, to retain it in the mouth and tear it. All these animals have at least three-fourths of their teeth within the jaw, which makes them much stronger than if a greater part of the teeth were out.

Animals of the granivorous kind, or such as live on herbage, as oxen and sheep, have no incisors, but have flat round teeth in their lower jaw, and rather pull up than cut the grass which they eat; and the greater part of these are ruminating animals, or such as chew the cud.

River fowls, as geese, ducks, herons, swans, &c., have a long bill, flattened at the end, and have a soft flexible membrane in their lower jaw, which helps them to swallow their food with ease. The sides of their bills are like so many small saws, with which they take up little fish, and pluck weeds.

Birds which have a hard, crooked, strong bill, with sharp edges, easily tear and cut flesh, and for that reason are carnivorous : such, for the most part, are birds of prey, as the eagle, hawk, raven, and others.

Birds which have their bills straight and slender, with a channel or groove through it, as the linnet, goldfinch, and sparrow, most commonly feed on seeds. The end of their bill is sharp, with which they bruise seed, and cut blades of grass.

Those birds which have the edges of their bills indented, as the greatest part of river-fowl have, feed, for the most part, on weeds; and these indentations serve as a saw, with which they cut them, and pull them up, as geese, ducks, and swans. River fowl, which live only by fishing, have most commonly in their



bill a little set of teeth, by means of which they retain the fish they catch. These small points are very large in the bird called king-fisher, which has teeth all along its bill, long and pointed, and turned in towards the throat.

Fish which have little pointed teeth live only upon other small fish; and these teeth, which point towards the throat, serve, not so much for mastication, as to retain their prey. Those fish which have the tongue and the palate of their mouths paved and scaly, live only on shell-fish, and break the shell to get at the meat contained in it.

Tortoises, which live in water (as well as on land), have teeth quite down to the throat, and use them for the comminution of those plants which they feed on at the bottom of the sea. Land tortoises have not only teeth in their jaws, but on their tongue, which are not directly opposite, but enter one between the other, and serve only in the retention, not for the comminution, of their food; and Steno, the anatomist, informs us, in his discourse *De Cane Carcharia*, that this fish has six hundred teeth, and has, moreover, some always coming

forth, as long as it lives. This fish has several rows of teeth in each jaw, which are hard, sharp, and pointed, the greater part of which are an inch in length, and serve only for retention, and not for the comminution of its food, which is evident, since very large animals are often found entire in its stomach.

Animals whose tongues are studded with large pointed papillæ, and have those turned towards the throat, make use of them in swallowing their food; and they also serve to retain it in their mouth. Of this species are lions, tigers, leopards, panthers, and others. And these papillæ cover the whole surface of the tongue. Some large fishes have their tongues covered with bristles, which form a sort of brush, and serve to retain the food.

The sea-fox has his tongue covered with small pieces of bone, not bigger than the points of needles; and these are white, square, and very hard.

The codfish has teeth at the bottom of his throat, the points of which turn inwards; and it is probable their only use is to retain the aliment. These teeth are hard, pointed, close,

and form a sort of file ; and there are four of them, two above, and two below, which correspond with each other.

The ray has three or four rows of hard, smooth, transparent bone, cut lozengewise, and ranged in very good order ; and these bones constitute the teeth with which they masticate their food. The carp has grinders, which serve for the comminution of its food ; it has six in the upper jaw, ranged three and three together ; and in the lower jaw it has a cartilaginous bone, in the shape of a flat olive, which does the office of teeth. There are other fish with peculiarly constructed teeth, all adapted to their particular habits.

The viper has two moveable teeth in its upper jaw : and various serpents have a number of teeth in each jaw, which serve for swallowing their prey ; and whilst the teeth of one jaw remain unmoved and serve to retain it, the teeth of the other are thrust out to hook it and bring it in again.

The parrot eats very readily, because its upper jaw is moveable, and articulated in such a manner, that, though the lower jaw be much

shorter than the upper, he can yet thrust it to the extremity of the upper jaw.

Those birds that have the upper jaw crooked, have the lower jaw short, yet they can thrust it to the top of the upper. Birds which have a long straight bill have not the property of moving their lower jaw, nor can they eat so well as a raven. Small birds with sharp, grooved, cutting bills, and that only live on seeds, bring them to the sides of their sharp bills, and turn them often about, till they find the junction of the seed, and break it.

Toads and serpents have throats so large that they can swallow whole fishes ; and, when they happen to seize their prey, they very dexterously toss them into the air and catch them again by the tail, so that the gills may not stick in their throats. Herons do not make use of their bills to break shell-fish, but swallow them entire ; the heat of their belly relaxes the muscle which keeps them shut ; and when they find the shell open, they eject them again, to feed upon the meat. Boars do not employ their tusks in mastication, but use them in tearing up plants by the roots.

The crocodile has neither cutting teeth nor grinders ; it only has dog-teeth, which are extremely white, hard, round, and pointed, with a channel entirely encompassing them ; the root is hollow, and twice as long as the tooth itself ; and they are so disposed as to leave an equal space empty.

Crabs have three teeth placed at the bottom of the stomach, and move that part in the comminution of their meat. The fish called orbis has four teeth in its throat, as large as the incisor teeth of a horse.

Horses, squirrels, and rats, have long incisor teeth, strong enough to gnaw any hard body ; and beavers have very large and strong ones, with which they can cut great branches of trees, to build their houses with. Besides those mentioned, which are drawn from the teeth, naturalists have laid down various remarks wherewith to distinguish the several natures of animals and their manner of living. We shall now proceed to speak of the diseases to which the human teeth are liable, and the treatment they require.

## SECT. V.

## DISEASES OF THE TEETH.

THE teeth are liable to decay, become carious and hollow, and thereby denude the nerve and membrane lining them. A high degree of inflammation frequently sets in, and continues with exceeding violence for several days.

The vulgar method of treatment in these cases, and which is extremely injudicious where acute pain and much inflammation exist, is to apply tinctures and essential oils, upon cotton, as tincture of benjamin, oil of marjoram, rosemary, and the like ; or pills made of camphor and opium ; or chewing the acrid root of the pellitory of Spain. Some destroy the nerve with sulphuric or nitrous acid, or a hot iron, or touch the antehelix, or posterior eminence of the ear, with the latter. But when any of these means are tried, if there be much inflamma-

tion, bleeding, purging, and blistering behind the ears ought to precede their use : though, in cases where the caries of the tooth is extensive, the hole may be plugged up with some narcotic preparation, as camphor and opium made into a pill ; or the following, which seldom fails to afford relief for the time :—

Take—Extract of belladonna, 1 grain,

Powder of liquorice-root, enough for two small pills,

one of which is to be introduced into the carious tooth, and there suffered gradually to dissolve, the saliva worked round it, and afterwards swallowed.

Irritating substances, as the essential oils, where the pain is acute, afford no relief, though in chronic affections they may be of temporary advantage.

Some people have stronger dispositions, particularly delicate females and children, to affections of the teeth than others, arising from various causes.

Where tooth-ache is the consequence of any sudden attack of cold, the gums are inflamed, the cheeks swollen, and the pain is extended to



that side of the head. In such cases as these, where the symptoms are violent, two or three leeches ought to be applied, as near as possible to, if not on, the temporal artery; the jaws are to be fomented with a strong decoction of camomiles and poppy-heads; and two table-spoonsful of the following mixture, taken every hour, until the bowels are relieved:—

Take—Glauber's salts	.	.	.	1 ounce
Magnesia	.	.	.	$\frac{1}{2}$ ounce
Tincture of senna	.	.	.	2 drachms
Mint water	.	.	.	8 ounces

The salts ought to be previously dissolved in hot water, the mint water added, then the magnesia, and, last, tincture of senna. This treatment being premised, and the face properly protected from the cold, ten grains of the compound powder of ipecacuanha may be taken at bedtime, and repeated every four hours, if the pain be severe, throughout the night. This treatment is also proper in violent head-aches. The bowels may be gently acted upon, the following day, by means of two table-spoonsful of the mixture, every four or six hours.



This is the proper treatment in acute tooth-ache; and which ought to precede the use of all irritating substances, which only aggravate the pain, where there is much inflammation.

A gentle emetic has frequently cut short an attack of the tooth-ache; which evidently shows that this affection frequently depends upon the state of the stomach. The following is a good form for an emetic, and may either be taken to produce full vomiting, or only nausea, which latter sensation ought to be kept up for some time, by small doses frequently repeated.

Take—Ipecacuanha powder . . .	$\frac{1}{2}$ drachm
Tartarized antimony . . .	1 grain
Tincture of squill . . .	1 drachm
Distilled water . . . . .	8 ounces.

Make a mixture; and, in order to produce full vomiting, on any occasion where an emetic may be prescribed, take at first four table-spoonsful, and, after six hours, two table-spoonsful. If it be only wanted to excite nausea, which frequently abates the violent pain of tooth-ache, a table-spoonful may be taken every

quarter of an hour. A simpler form of emetic for this purpose, is—

Take—Tartarized antimony . . .	1 grain
Ipecacuanha wine . . .	2 drachms
Water . . . . .	1½ ounces.

Of these, make an emetic draught, to be taken immediately.

Or take—

Emetic tartar . . . . .	2 grains
Distilled water . . . . .	4 ounces.

Dissolve; and take two table-spoonsful every quarter of an hour, until vomiting be excited; or half the quantity, to keep up nausea.\*

### *Treatment of Decayed or Rotten Teeth.*

The manner in which the teeth, under certain conditions, have been treated, and the remedies hitherto supplied by surgery, have many of them, from the commencement of our practice, appeared contrary to reason, if not cruel. All authors, indeed, which we have consulted on this subject, concur in recom-

\* We beg leave to acknowledge our obligation, for the above excellent forms of emetics, to the "New London Medical Pocket-Book," pp. 227-8, by J. S. Forsyth, Surgeon.

mending the destruction of the nerve of the tooth, and its investing membrane; and it is with this view the use of concentrated acids and red-hot irons is recommended. The pain caused by this operation of destroying the nerve is so intense and protracted, and the very idea of it so distressing, that few patients are willing to submit to it. But then the violent irritation created by it in the whole nervous system, but more especially in the adjoining nerves and parts, occasions, not unfrequently, a considerable irritable or inflammatory tendency. In a few days after the operation, an inflammation of the whole mouth ensues, which soon becomes concentrated upon the parts near the affected tooth, when tumefaction and suppuration take place. The pus being discharged from the swelled gums, the patient obtains some relief; but a perfect cure is not accomplished, which can only now be effected by the extraction of the tooth—an operation to which the patient soon flies for relief.

A tooth deprived of its vitality, by the destruction of its nerve, acts upon the parts with which it is immediately in contact, as

a foreign dead body. It produces all the evil effects which are usually the consequence of the dead root of a tooth, but in an infinitely greater degree.

From the moment a tooth is deprived of life, it becomes an useless and intrusive part in the animal economy, and causes an irritation with which the whole constitution sympathizes. In the beginning, the suppuration at the root of a tooth exists in the fasciculus of the nerves, and extends afterwards to the cord of the nerve. The progress of the disease opens a way for the discharge of the matter through the canal of the root. If, therefore, a tooth which has been treated upon this plan be filled up with metal, the natural opening for the discharge of the matter is thereby obstructed, and the matter, being thereby confined and accumulated, works its way through the side of the socket, and produces a fistulous opening, which can only be remedied by extracting the tooth.

## SECT. VI.

METHOD OF OPERATING WHERE THE NERVE OF THE  
TOOTH IS EXPOSED.*Plugging of Teeth.*

THE following method of operating, in cases where the nerve of the tooth has become exposed, appears to be founded on more rational principles, since the chief object in view is to preserve the life of the lining membrane, and by these means, also, that of the whole tooth.

1. To put a stop to the caries, and consequently to prevent the irritation upon the internal membrane of the tooth.

2. To check the bleeding, and to cure the wound of the membrane, if it be injured.

3. To protect the membrane artificially against the action of all foreign or external agents.

To obtain the first of these objects, we are recommended \* to cut away the unsound or

\* Vide Essay on the Treatment of the Lining Membrane of the Teeth, when Denuded. By Leonard Koecker, Surgeon-Dentist, and Doctor of Medicine and Surgery, of the University of Erlangen.

dead parts of the tooth, so that every part of the decayed cavity may be firm, sound, and whole, giving it, at the same time, the best possible form for the reception of the metal and its firm retention. The cavity should be next washed out with a little lock of cotton, fastened on a straight elastic probe, dipped in warm water.

If the lining membrane be not wounded, the cavity is to be immediately plugged with metal; but, if a wound with hemorrhage exist, the second indication is to be resorted to, by which we must endeavour to put an immediate stop to the bleeding, and cure the wound.

#### *Operation and Subsequent Treatment.*

It is remarked by Mr. Koecker, that, at the commencement of his practice, he was in the habit of suppressing the bleeding by means of mild acids and styptics; these, however, he soon abandoned for the actual cautery, with which he readily effects an artificial cicatrization of the wound, and a stoppage of the bleed-

ing. "I require," says he, "for the operation, the following apparatus:—

"1. A thin iron wire, fastened to an ivory handle. The extremity of this wire I file to about the thickness of the exposed surface of the nerve, and bend the wire in such a manner as to enable me to touch the exposed part of the membrane, without coming in contact with any other part of the mouth.

"2. A tallow candle with a thick wick.—I direct the patient to discharge all the spittle he may have in his mouth; and let him incline the head backwards against any convenient place. I put the candle into his left hand, and direct him to hold it so that the flame of it may be in a position horizontal with his mouth, and about eight inches from it. I now place myself on the right side of the patient, and, holding his lips with my left hand, so that the instrument may not touch them, I again dry the cavity as perfectly as possible, with a lock of cotton fastened to the point of the cauterizing wire, and make it red-hot in the flame of the candle. With the wire thus heated, I touch the denuded part very rapidly, so that its surface forms

an eschar, without, however, suffering it to penetrate deeply into the substance of the bone of the cavity, for this would inevitably bring on suppuration and destruction of the nerve. The nerve must be touched very quickly, and the cautery red-hot. It is sometimes necessary to apply it two or three times before the parts are sufficiently cauterized. When the cautery is red-hot, it acts suddenly, and almost entirely without pain; but, when it is merely hot, much pain and inflammation are produced."

*Injury of Air to an Exposed Nerve.*

As air is among the most injurious of external agents, when conjoined with moisture, upon an exposed nerve, if the nerve of the tooth be long exposed to the influence of these agents, its inflammation, and consequent destruction, are almost inevitable. On this account, the above-mentioned operation is terminated by passing to the third indication—namely, to protect the nerve against external injurious impressions, by filling up the cavity of the tooth with lead, for this purpose, in preference to any other metal, from it not being so apt to



excite inflammation and suppuration around it. Many instances are recorded illustrative of the success of this practice, which we acknowledge to be both rational and easily practicable.

*Danger of Caustic or Corroding Applications to the Teeth.*

Independent of the injury done to the enamel by the application of concentrated acids to carious teeth, there are other consequences to be apprehended.

Fabricius Hildanus (Cent. Obs. 4 Obs. 21) informs us, that a certain princess, of forty years of age, being troubled with a violent pain in her teeth, and having tried many remedies in vain, at last had recourse to aquafortis. Either in consequence of its caustic nature, or the continuation of the fluxion, several of her teeth rotted, broke, and came away, leaving several cavernous fistulæ in the chin, and ulcers under the glands, which voided about three pints of matter daily. At length, all the teeth rotted, she became feverish, and the bones of the head were diseased.

## SECT. VII.

SOME FURTHER REMARKS ON THE ACTUAL CAUTERY,  
AND PLUGGING OF TEETH.

THE vitality of the teeth is considered to depend on the existence of their vessels, as their sensibility naturally does on the existence of their nerves: thus, when the vessels and nerves entering the root of a tooth are destroyed, that tooth can possess neither sensibility nor vitality; but, although deprived of life, we do not imagine, by any means, that it is altogether an useless or intrusive part in the animal economy. Indeed, we could adduce several instances, where, after the nerve of a tooth had been destroyed, that same tooth has remained for years firm in its sockets, undergoing only a slight degree of discolouration; and we could bring forward, also, several cases, where, after the nerve of a tooth had been destroyed, its sensibility has been restored. This, however, is not a material object in the present plan of our labour, and belongs only to the

practical parts connected with the structure and function of the teeth on which adjacent functions depend.

The use of the actual cautery, notwithstanding the caution and address with which Mr. Koecker recommends it, is for the most part found intolerably painful, and sometimes scarcely endurable. We shall quote the following instance, which was productive of serious consequences :—

*Case.*

Towards the end of December (says our authority), in the year 1822, a poor woman was brought into the Hotel Dieu, Paris, under the following circumstances :—Being dreadfully afflicted with tooth-ache, and not wanting to lose her tooth, she applied to a chymist for something to mitigate the pain. A man in the shop having heard that the actual cautery was a sure remedy for it, heated an iron, and thrust it into the interior of the painful tooth.

The woman possibly might have been of an irritable constitution ; she went out in the air, and caught cold : before night, inflammation

was rapidly setting, and, by the next day, the face and cheek were swollen to a considerable extent; the woman was consequently compelled to keep her room; still the symptoms did not abate. The swelling continued to increase; her eyes were scarcely perceptible; her articulation could not be distinguished; her face was nearly double its natural size; and, altogether, she exhibited a most shocking appearance: nor was it until a very considerable time after she entered the hospital, that her recovery was certain.

*Remarks.*

This circumstance shows the great liability there is to inflammation, if we trifle with the nerves in the interior of the teeth. We have ourselves, where the preservation of a tooth has been indispensably requisite, frequently applied the actual cautery, but have always been apprehensive of bad consequences. Many French dentists resort to this medium whenever they find the least sensibility in a tooth, and they generally find that it hardens the tender part. When a decay is so far advanced

as nearly to expose a tooth's cavity, it is then impossible to plug up that tooth with metal, on account of the pain and inflammation that the pressure on the nerve would occasion; but by introducing a heated iron into the cavity of the decay, if properly applied, the sensibility is greatly diminished.

Actuated by what is here said on the subject, many continental, as well as British, dentists have imagined, that where a decay of a serious nature occurred in the crown of a tooth, in the lower jaw, melted gold or lead introduced into that cavity would not only, if pain existed, alleviate it, but, by the cavity being, as decays in general are, much larger in the interior, remain permanently, for a considerable time, in the tooth.

This plan, being altogether new, was much adopted; but the very great success with which the late Mr. Waite, of Old Burlington Street, performed this operation, got the melted metal very much into disrepute. Many patients suffered severely from burns, and many objections were raised, which condemned the

operation, although the idea was reckoned good.

Numberless facts connected with the teeth are still in obscurity, nor have we many interesting works published on them, except those of Fox, Blake, and Bell, that of John Hunter's being the general standard. To us, indeed, it appears somewhat ironical, that out of so many dentists who get into such great reputation at the west end of the town, we do not find some among them who endeavour to contribute their mite towards the general stock of useful information. The extracts we have given from Mr. Koecker's work appear to be founded on scientific principles; and, as so few dentists in our own metropolis can favour us with their knowledge, let us return him all the credit due to his endeavours.

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## SECT. VIII.

## ON THE ABSTRACTION OF TEETH.

WHEN the caries of a tooth cannot be early checked, and the individual is troubled with frequent and violent returns of the tooth-ache, and also where the means and convenience do not admit of its being plugged, the radical cure consists in having it extracted: since caries, or rotten teeth, are known to affect the breath, as well as to affect their neighbours.

There are several instruments used in drawing teeth: one, for instance, where the tooth to be drawn is seated far back in the mouth; and another, where they are not so far; and the punch for those that are broken off at the root close to the gum, and where it does not admit of being seized with the extracting instrument.

*Precautions to be observed in Drawing of Teeth.*

1. The tooth to be drawn ought, in a great measure, to become its own fulcrum; otherwise,

the soft parts may sustain severe injury, and the jaw-bone suffer, either from fracture, or by carrying away with the tooth a considerable portion of the alveolar process, which nevertheless more or less happens where ossification has taken place between the fangs of the tooth and the laminæ of the jaw-bone.

2. The gum being previously well lanced round the tooth, to detach it from the adhering and cartilaginous substance, and the instrument padded and applied, the patient properly placed, and held in that position, the extraction ought to be forcibly, though gradually, increased, until the tooth start from the socket. The pain at this moment is most acute, and although it does not continue above a minute, it would seem that it carried every inconvenience, previously felt, away with it. The bleeding need not instantly be stopped, unless profuse, which is rarely the case; and, when it is so, dry lint forced into the socket, or, on slight occasions, cold water, will generally be all that is required. The patient should keep a piece of lint applied, dipped in tincture of myrrh, or tincture of benzoin, diluted:



tie a handkerchief over the mouth, to keep out of draughts and cold air for a day or two.

3. The operator must guard against mistaking the proper tooth to be drawn; nor in drawing must too forcible a degree of pressure be applied by any accident against the sound teeth, as they may be broken. It would be an unpardonable act in a tooth-drawer to mistake a sound for an unsound tooth; and, in this case, he must have his eyes before him, and not always rely on the patient's account, since it often happens that, the contiguous teeth being painful, from sympathy, he points to one of them. In this case, the safest way is to take that which appears black and rotten.

*When Teeth ought not to be drawn.—Palliatives.*

Unless teeth are carious, they ought not to be drawn in every case, though they put the patient to a great deal of pain. In this case the cooling treatment ought to be adopted; and, as pains in the teeth frequently proceed from an acrimony in the lymph, whose fomes are in the stomach, the patient may use any of the preceding emetics (p. 30); for, as before observed,

it is found by experience that vomiting has often cured this species of tooth-ache. The fluxion is also sometimes very successfully diverted by bleeding in the opposite arm. Diluent and emollient clysters are very useful, and so are anodyne cataplasms, made with crumbs of white bread, yolks of eggs, saffron, camphor, and the like, applied to the patient's cheeks. Laudanum, applied to the temporal artery, or a little lint, dipped in a solution of it, made with water or milk, and put into the ear or mouth; also, spirits of wine camphorated, and held in the mouth near the affected part,—are, merely as palliatives, often found exceedingly useful.

*To stop the Progress of Rotting Teeth.*

To arrest the progress of the carious tooth, without having recourse to any operation for that purpose, the patient, by means of a hair pencil, may introduce a little of the oil of guiacum. A piece of gum myrrh, or myrrh and one-third crude opium, may be worn in the hollow tooth. To this, however, we shall more effectually allude when speaking of the preservation of the teeth.

*Transplanting of Teeth.*

This method of supplying good for unsound teeth has long been laid aside, in consequence of the danger with which the practice is attended, by the communication of disease from an unhealthy to a healthy person. It might, nevertheless, be continued with success on many occasions, could persons in a wholesome and sound state of body be found to answer the demand, however unnatural it may appear. But a few untoward cases soon raised a prejudice against the continuance of the practice, as in the transfusion of blood from one individual to another; though the latter has recently been eminently successful, under the hands of Dr. Blundell, the lecturer on midwifery. And we have no doubt, that both the transfusion of blood, and the transplantation of teeth, are capable, with judgment and discrimination, of being rendered subserviently beneficial to society, where exhaustion or decay may suggest the means.

We have the following case of this practice, which at one time was rather fashionable. The

patient, a young lady of great beauty and merit, after having been attended by some of the most eminent physicians in this metropolis, sunk under the disorder. The following alarming account of this case was given by the late ingenious Dr. Duncan, of Edinburgh, in the following words :—" A new disease has lately been discovered in London, occasioned by the transplanting of teeth from the head of one person to that of another. The mortality from it is computed at nearly two deaths to ten diseases ; and about one in every hundred who receive the teeth by transplantation is affected by this disease. Ulcerations of the throat and gums, with eruptions on the skin, are its chief marks. When death takes place, it is from the occurrence of sphacelus. From five or six weeks after transplanting, the teeth look well, and are as firm as the others. A cure has been attempted in vain, by the Peruvian bark ; and it has proved fatal after the use of mercury, although some cases have yielded to that medicine."

## SECT. IX.

## RECIPES FOR TOOTH-ACHE.

REMEDIES for the tooth-ache might be enumerated without end, if any reliance could be placed upon them. We shall here quote a few, and make such observations on each as will tend to stamp it with the proper degree of efficacy that may rationally be expected from it, either in a curative or palliative point of view.

*For a Hollow Tooth that aches.*

Take camphor and crude opium, of each four grains; make them into three pills, with two drops of the oil of cloves; roll them in cotton, and apply one of them to the aching tooth. Repeat, if necessary.

OBS.—The camphor and opium are admissible as sedatives; and, from their narcotic tendency, may alleviate the pain in some cases. We think, however, that half the quantity made into three pills, and one, applied to the hollow

tooth until it dissolve away, would be quite sufficient. Where the jaws swell from the tooth aching, after fomentations of poppies and camomiles, the part may be rubbed with soap liniment, and wrapped up in flannel—using one of the above pills, as directed.

*Another.*

Take oil of wax, and with it moisten a little cotton, and thrust it into the hollow tooth; and let it be there until the pain abates.—BOYLE.

NOTE.—And there, in all probability, it may be long enough, before any other good effect be produced than that of defending the exposed cavity from the inhalation of the external air.

*To appease violent Pains in the Teeth.*

Make a scruple of mastich and half a grain of laudanum into two or three pills, for the patient to take at bed-time.—*Ibid.*

NOTE.—Mastich is highly esteemed by the Turkish and other Eastern ladies, by whom it is constantly chewed. Its powers are carminative, or wind-dispelling; and it sweetens

the breath. It is a gum resin, extracted from the tree by incision, and is chiefly brought to us from Aleppo and Smyrna. It is also a tonic and astringent, in doses from half a scruple to a scruple (20 grs.) It is given in mucilage, or beat up with the yolk of an egg: it is entirely soluble in spirits of wine.

*To prevent the Tooth-ache, and keep the Teeth sound.*

The patient is recommended to rub his teeth moderately with the ashes of tobacco that remain in pipes, or that fall off from the ends of cigars; afterwards washing the mouth with luke-warm water, and wiping the teeth with a sponge.

NOTE.—The tobacco ashes have no other property than that of a small portion of alkali, which may serve to dissolve acrimonious encrustations on the enamel; and may be useful where the teeth are clammy and agglutinated, in consequence of not being often cleaned.

*An almost Specific Remedy for the Tooth-ache.*

Into a quart of port wine, or claret, put a

drachm of alum, and another of acorns ; a drachm and a half of galls, and half a handful of good day-dried red rose-leaves : boil them down to half, and then strain, and dissolve in it a drachm and a half of gum arabic, bruised in small pieces ; and with this liquor, a little hot, wash the teeth and gums daily.—BOYLE.

OBS.—This is an excellent astringent application to spongy or scorbutic gums, which are apt to bleed. It will astringe the fibres, and teeth that are inclined to be loose may be strengthened in their sockets by it. The mouth may be washed with it several times a day : it will purify the breath, depending on diseased teeth or scorbutic gums.

*Another.*

Take a handful of red sage, and a handful of clary ; shred them small, and beat them ; sprinkle them with May dew ; then strain out the juice, and pour it into a bottle, and set it near a window exposed to the sun. When used, three drops are directed to be put into a spoon, and heated over a candle till blood-warm, then poured into the ear. A crust of bread is then



to be dipped in broth or posset, and chewed with the teeth that ache.—BOYLE.

OBS.—The chewing of the bread, it is presumed, is here intended merely as a mechanical action, whereby the substance introduced into the ear may insinuate itself farther into the labyrinth, to act upon the nerves communicating with those of the teeth. The sage and clary are gently anodyne and odoriferous. We do not hold this recipe in much estimation, notwithstanding its simplicity; and it is far inferior to others from the same source, though equal to many from other quarters, which aspire to higher pretensions.

*For an Aching Hollow Tooth.*

Take two parts of common pepper, ground to a fine powder; and mix exactly with it one part of sugar, moderately fine, over a gentle heat. Form the mass into small pills, of the magnitude you wish; and when they become cold, they will harden, when they may be applied to the part affected, in the way of a plug, to dissolve and ease pain.

The addition of some narcotic extract, as

opium, henbane, hemlock, to the extent of a quarter or half a grain, to the sugar, and the pepper omitted, would look more feasible.

*To fasten Teeth.*

Wash the mouth with equal parts of tincture of myrrh and water.

Or,

Put mastich, finely powdered, upon the end of a towel, or piece of linen, and rub the teeth with it three or four times a day, and chew gum mastich.

Also,

Boil pomegranate flowers, with mint or mastich, in red claret or wine ; and with this gargle your mouth often.

*Another.*

The following, we are told, was presented to Charles the First, to fasten his teeth.

Take a pint of spring water, and put to it four ounces of brandy. The royal patient was ordered to wash his mouth with the mixture every morning fasting, and two or three times in the course of the day ; and in the morning

to roll a piece of rock alum about his mouth for a short time.

*Another.*

To four ounces of claret or red port, add half an ounce of the powder of catechu.

*To fasten the Teeth in Scorbutic Gums.*

Take—The best bole ammoniac . . . 2 drachms  
 Myrrh in powder . . . . . 1 drachm  
 Rock alum . . . . .  $\frac{1}{2}$  drachm  
 Claret . . . . . 1 pint.

Boil these gently together for a short time ; and let the patient gargle his teeth and gums therewith often in the course of the day.

NOTE.—The three first ingredients make a very good dentifrice, without the claret.

*To fasten Loose Scorbutic Teeth.*

Gargle with honey water and myrrh ; or, add honey and myrrh to a decoction of sage-leaves.

*A Lotion to fasten the Teeth.*

Add to a quart of spring water an ounce of the best powdered catechu (Japan earth). Boil and filter. Keep it stopped for use. Or,

add to a pint of red wine as much catechu as it will dissolve. Decant it from the sediment, and keep it for use, in a bottle well stopped.

OBS.—Catechu, or Japan earth, is one of the most powerful astringents. It was long disputed whence it is produced ; but Mr. Kerr (Med. Obs. and Inquiries, vol. 5) showed it to be an extract from the interior coloured wood of the Mimosa Catechu of Linnæus. It is prepared by the inhabitants of Hindoostan, particularly on the Malabar coast. It is a dried vegetable extract, containing much gummy matter, or mucilage, which suspends the resin in water. It is highly useful, in many cases, in medicine.

*A simple Astringent Wash for the Mouth and Teeth.*

Add half an ounce of purified sal ammoniac to a pint of clear spring water, with which wash the mouth occasionally.

*When the Gums are Swollen and the Teeth Aching.*

In this case, it is probable an increased secretion of saliva might be beneficial : for this purpose, dissolve a spoonful of good mustard in

about a pint of French wine; and, having warmed it a little, let the patient hold it in, and wash his mouth with it, from time to time.

OBS.—Too stimulant, or the pellitory of Spain, in this case, would be preferable.

*To preserve the Teeth.*

“ If you would keep your teeth from rotting or aching, wash the mouth continually every morning with juice of lemons, and afterwards rub your teeth with a sage leaf, and wash your teeth after meat with pure water.”

*For a Hollow Aching Tooth.*

Take mastich, and chew it in your mouth till it be as soft as wax; then plug up the hollow tooth with it, and there let it remain until it be consumed.

*A Charm, for those who believe in such things.*

“ The tooth of a dead man carried about with you, presently suppresses pains of the teeth.”

*An uncommon, but not unuseful, Remedy for the Tooth-ache.*

“ Let the patient, on the ear opposite to the

tooth affected, and into the other ear, drop two or three drops of the expressed juice of rue, a little warm, and stop the ear lightly with fine black wool or cotton."

*Another.*

"In the declining of the moon in August, take the fruit called hips—namely, those of the small-brier, with all the fuzzy stuff that grows upon it, and, lapping it up in a piece of thin sarcenet, tie it upon the arm that is upon the same side with the part affected, and keep it on as long as there is need."

Of these, and such-like recipes, a volume might be filled. They are laid down, not so much for their utility, as to show the indiscriminate notions of people in the cure of a complaint which not unfrequently requires management as active and decided as any other inflammatory disorder. And we would recommend, in all severe cases of tooth-ache, that the first active symptoms be allayed by the treatment laid down in pages 27 and 28, before any irritant, or even narcotic substance, be used to assuage pain. This is the safest plan.

In old carious teeth, however, many of the preceding forms may alleviate, if not entirely remove, the aching. And in every attack of tooth-ache, we would invariably recommend the patient to take some cooling opening medicine, be abstemious in his diet, and go out in the dry air.

Rheumatic tooth-ache requires the treatment laid down at page 28, with bathing the feet in warm water, promoting gentle perspiration, and drinking mild diluent fluids.

Tic douloureux, or that painful nervous affection of the face thus denominated, has frequently been alleviated and cured by the extraction of a tooth which has pressed on the fibrilla of some nerve.

It strikes us forcibly, that in the nervous tooth-aches (the active symptoms removed), where there is no caries, the carbonate of iron would be a valuable medicine ; and, although we have hitherto not met with a case to induce us to give it a trial, it is our opinion, nevertheless, that great benefit would be derived from it, particularly in phlegmatic habits, where there is no determination to the head, and where neither apoplexy nor palsy are

present. The dose is from a scruple to a drachm three times a day, with some aromatic powder, in water.

*A Dentifrice, to preserve and whiten the Teeth, and to correct a Tainted Breath.*

Take—Vitriolated tartar . . . . .	2 drachms
Dragon's blood and myrrh, each	$\frac{1}{2}$ drachm
Gum Lac . . . . .	1 drachm
Ambergris . . . . .	4 grains
And, if you like, musk . . . .	2 grains.

Let these be well powdered and mixed in a marble mortar, and kept in a stopped bottle for use.

The method of using the above is as follows : put a little of the powder into a saucer, or on a piece of white paper ; then put a piece of clean linen cloth upon the end of your finger, just moisten it with water, and dip it in the powder, and rub the teeth well with it once a day (morning) ; but, if you want to preserve their lustre, twice a week is sufficient to use it.

NOTE.—This is certainly an admirable and well-contrived powder, and will go far in preserving the teeth and gums, and in correcting what is commonly called a tainted or stinking



breath, which, for the most part, is occasioned by carious teeth or scorbutic gums; the last of which is so incidental and fatal to the teeth of children. This powder will do good, applied in the manner directed.

The too frequent use of a tooth-brush makes the teeth become long and deformed, although a good instrument; but the moderate use of it is proper enough. After rubbing the teeth with the above powder, the mouth may be rinsed with a little red wine, warm.

*To make the Teeth white.*

Take three spoonsful of celandine, nine spoonsful of honey, half a spoonful of burned alum, and rub the teeth with it.

*Tooth Powder.*

Take—Cream of tartar . . . . .  $\frac{1}{2}$  ounce  
           Myrrh, in powder . . . . .  $\frac{1}{4}$  ounce.

Rub the teeth with this mixture two or three times a week.

*To Clean and Purify the Teeth, and Sweeten a Strong Breath.*

Take—Powder of myrrh . .  $\text{ʒi}$ , or 1 ounce  
           Charcoal, in powder .  $\text{ʒiss}$ , or  $1\frac{1}{2}$  ounce.

Blend these well together, and clean the teeth with them in the usual way, with a soft tooth-brush.

Or,

Take—Peruvian bark . . . . 1 ounce  
Charcoal, in powder . . . 1 ounce.

Use as above.

NOTE.—To either of these dentifrices, a grain or two of ambergris may be added.

*Another.*

Take—Dragon's blood . . . . 5 ounces  
Aromatic powder . . . . 3 ounces  
Alum, in powder . . . . 2 ounces.

Mix them well together, and rub your teeth with it, with a soft tooth-brush, or piece of sponge, every other day.

*A Liquid Dentifrice.*

Take—Lemon juice . . . . 2 ounces  
Calcined alum . . . . 6 grains  
Common salt . . . . 6 grains.

Put them into a glazed earthenware pot, let them boil for a short time, and strain through linen.

This liquid is used in the following manner : take a piece of stick, and pad a piece of linen, or small bit of sponge, on one end. This is to be dipped in the solution, and applied gently to the teeth. Care must be taken that too much liquor be not taken up by the linen at a time, lest it injure the gum and palate. This liquor is used only once every two or three months.

*Another.*

Soak a piece of cloth in vinegar of squill, and rub the teeth and gums with it. Independent of making the teeth white, it fastens and strengthens them, and gives a sweet and pleasant odour to the mouth.

*Another.*

Take—Rose water . . . . .	4 ounces
Plantain water . . . . .	6 ounces
Syrup of violets . . . . .	1 ounce
Honey . . . . .	4 ounces
Diluted sulphuric acid . . . . .	2 drachms.

Mix—and rub the teeth with it by means of a piece of soft rag.

## SECT. X.

METHOD OF PREPARING ROOTS TO CLEAN THE  
TEETH.

THE roots made use of to clean the teeth are arranged in the form of small brushes at both ends ; they have probably been substituted for brushes, from being softer to the gums. The fibrous and ligneous roots are the best for this purpose, as those of lucern, mallows, and liquorice ; consequently, they are obliged to be deprived entirely of their extractive part, by boiling them at different times in a large quantity of water, which is to be frequently changed.

The lucern-root of the second year is that which is preferred, about the size of the little finger ; those that are too large are rejected, as well as those which are rotten or gnawed by insects. They are cut in lengths of about six inches, and divested, as before observed, of their extractive matter, by boiling

them. As soon as they become partially dry, the fibres at both ends are separated with a penknife, giving them at the same time the shape of a hair pencil, or brush; they are then thoroughly dried, that they may not split. Some dip them afterwards in a strong infusion of liquorice, to disguise them; they are dried again, and put by for use.

The liquorice-root is prepared in the same manner. The mallow roots are more easily prepared, but they are very brittle when dry, in consequence of the mucilage which they contain, which of itself is very brittle, when dry. The thickest and smoothest are taken; they are then scraped with a knife, to remove the outer bark, and are dyed red, by dipping them in a similar infusion to that in which sponges are dipped for the same purpose. After the roots have remained twenty-one hours in the dye, they are taken out, and slowly dried, and are done over with two or three layers of gum tragacanth in succession: on these layers of mucilage are afterwards laid several coats of tincture of benzoin, in order to make a more solid covering of tarnish than

that of the mucilage, and which is not susceptible of melting.

The lucern and liquorice roots are varnished and dyed in the same manner. The marsh-mallow roots shrink considerably while they are in the dye, in consequence of the destruction of their mucilage.

*To prepare Tooth-Sponges.*

For this purpose, very fine sponges are selected. They are washed in several waters, by handling them about, in order to detach from them any extraneous matter, as small shells, which are often found in the interior of them. They are then dried, and afterwards properly cut, to the form of a ball, about the size of a small egg. Thus prepared, they are put into the following dye:—

Take—Brazil wood . . . . .	4 ounces
Cochineal, bruised . . . . .	3 grains
Rock alum . . . . .	4 grains
Water . . . . .	4 pints.

These ingredients are put into a convenient vessel, and the liquor boiled down to one-half. The decoction is strained through linen, and it

is poured quite hot upon the sponges, which are left to infuse for twelve hours; they are then taken out and well washed, to disgorge the superfluous dye, until the last water is left quite clear. They are then dried, and afterwards soaked in spirits of wine, aromatized with the essential oil of cinnamon, cloves, or lavender.

When the sponges are taken out of the spirits of wine, they are squeezed, and preserved in a large-mouthed bottle, well stopped.

*A Water to strengthen the Teeth and Gums.*

Take—Cinnamon . . . . .	2 ounces
Cloves . . . . .	6 drachms
Fresh lemon-peel . . . . .	1½ ounces
Petals of red roses . . . . .	1 ounce
Water cresses . . . . .	6 ounces
Scurvy-grass . . . . .	2 pound
Spirits of wine . . . . .	3 pints.

The hard substances are to be broken down, the scurvy-grass and water-cresses are cut coarsely, and the whole is left to macerate in the spirit of wine for four-and-twenty hours, in a close vessel. They are put into a sand bath, and distilled to rectification.

This water strengthens the gums, prevents the scurvy, and cures the thrush. It is used also to wash the mouth; and it is either used alone, or mixed with water.

*A Powder for the same purpose.*

Take—Prepared pumice-stone . . .	1 ounce
Fuller's earth . . . . .	1 ounce
Red coral prepared . . . .	1 ounce
Dragon's blood . . . . .	$\frac{1}{2}$ ounce
Cream of tartar . . . . .	$1\frac{1}{2}$ ounce
Cinnamon in powder . . .	2 drachms
Cloves . . . . .	1 scruple.

Mix these, and make one whole powder.

This preparation, in the form of powder, is used to clean and whiten the teeth; to prevent the inconvenience that may arise from the accumulation of tartar, or other materials, among the teeth. It is made use of by means of a small brush, or at the end of one of the roots before mentioned. Both ends are moistened, that the powder may stick to them, and the teeth are rubbed with the same. The mouth should be afterwards washed with the following liquor :—

Spring water . . . . .	1 pint
Tincture of myrrh . . . .	1 ounce
Spirits of lavender . . . .	$\frac{1}{2}$ ounce.



By attentions like these to the mouth, gums, and teeth, fluxions and other accidents are prevented from taking place.

The above liquor may be used every morning to gargle and rince the mouth ; also, in putrid sore throat and relaxed uvula, &c.

*For Scorbutic Gums.*

Bruise cinquefoil in a marble mortar, and express the juice ; warm it over the fire, and rub the gums with it every night and morning.

*To sweeten the Breath.*

Roll up a little ball of gum tragacanth, scent it with some odoriferous essence, and retain it in the mouth. A little musk may be added, where that perfume is not disagreeable.

After having eaten onions or garlic, chew a little raw parsley.

## SECT. XI.

## LIP-SALVES.

THE economy of the lips appertains to the mouth department; we shall therefore lay down some select preparations under the above denomination, in order to preserve them in a healthy and agreeable state.

1. *A Yellow Lip-salve.*

Take—Yellow bees'-wax . . . 2½ ounces  
 Oil of sweet-almonds . . . 4 ounces.

Melt the wax in the oil, and let the mixture stand till it become cold, when it acquires a pretty stiff consistence. Scrape it into a marble mortar, and rub it with a wooden pestle, to render it perfectly smooth. Keep it for use in a gallipot, closely covered.

*Use and Properties.*—It is emollient and lenient; of course, good for chapped lips, hands, or nipples; and preserves the skin soft and smooth.

## 2. *For Pimples on the Lips.*

A crust of bread, applied hot, is an efficacious remedy for pimples that rise on the lips, in consequence of having drank out of a glass after an uncleanly person.

## 3. *A Scarlet Lip-salve.*

Take hog's lard, or fresh butter, washed in rose-water, half a pound; red roses, and Damask roses, bruised, a quarter of a pound; knead or work them together in a mortar, and let them lie in that state two days. Then melt the hog's lard, and strain it from the roses. Add a fresh quantity of the latter, knead them in the hog's lard, and let them lie together two days, as before; then gently simmer the mixture in a vapour-bath. Press out the lard, and keep it in use in the same manner as other lip-salves.

## 4. Or,

Take an ounce of the oil of sweet almonds, a drachm of fresh mutton suet, and a little bruised alkanet root; simmer the whole together.

Instead of the oil of sweet almonds, you may use oil of jasmine, or the oil of any other flower.

5. Or,

Take oil of violet, and the expressed juice of mallows, of each an ounce and a half; goose-grease and veal marrow, of each a quarter of an ounce; gum tragacanth, a drachm and a half: melt the whole over a gentle fire.

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## SECT. XII.

### CAUSES ON WHICH A TAINTED BREATH DEPENDS.

1. SCORBUTIC and scrofulous affections; 2. The use, and not unfrequently the abuse, of mercury; 3. Weak and diseased lungs; 4. Carious teeth; 5. Ulcers in the palate, gums, and nose; 6. Smoking or chewing tobacco; 7. Habitual drinking; 8. Diseased fauces and uvula.

*Scorbutic Affections.*

A tainted breath from scorbutic gums is to be cured radically by attacking the original complaint. Local applications, such as antiseptic gargles, are of service, so far as they correct the putrid tendency of the animal juices, and the laxity of the solids.

*In the sea-scurvy*, the juices are disposed to putridity from the use of animal food and moist air ; antiseptics, therefore, will be proper, as lemon-juice, nitre dissolved in vinegar, vegetables, and fruit. In defect of these, infusion of malt, or liquors made of molasses or sugar. Bark and sulphuric acid are good ; mineral waters, joined with bitters or bark, are also good.

The *land-scurvy* (improperly so called), is rather a cutaneous disease ; scurfy or scabby eruptions appear, either partially or more universally, often with itching or heat. The treatment here consists in antimonial alteratives, with sometimes gentle mercurials : lime-water, or the compound juice of scurvy-grass, may be used with them ; crystals of tartar and flowers of sulphur are good.

These are the means to cure a tainted breath depending on a scorbutic affection. The local applications may be selected from some of the forms or recipes here laid down;—keeping the mouth and teeth clean; chewing mastich, lemon-peel, and the like; vegetable diet, and abstinence from gross salted aliment. The following is also a good corrector:—

Tincture of bark . . . . .	3j
Tincture of gentian . . . . .	3j
Tincture of cardamoms . . . . .	3ij.

Two tea-spoonsful to be taken in a wine-glassful of mint or balm-tea, at bed-time, and fasting in the morning; the same in a glass of soda-water in the highest state of effervescence, about an hour before dinner, paying every attention to cleanliness, both locally and generally.

*Tainted Breath from the long use of Mercury.*

The use of mercurial preparations, long continued, renders the breath highly disagreeable. Mild occasional purgatives; tonics, as bark, valerian, gentian, with the local remedies of an aromatic form, are all calculated to restore the constitution to a healthy state. Frequent

change of linen, and ablution, free air, temperance, and exercise, will purify and invigorate the fluids, and render the perspirations healthy, which, under such a condition of body, are generally of a sickly and unwholesome nature.

Diseases of the chest, and ulcers of a venereal nature, give rise to an unpleasant breath. The radical cure of such complaints will remove this effect; and local correctors will conceal it for the time.

Chronic ulcers of the palate may be cured by mercurial fumigation, conjoined with an alterative course of medicine. In these cases, the cure requires medical assistance, not so much to remove an unpleasant breath, as to guard against general constitutional affections.

The membrane lining the interior of the nose is often affected for a length of time, without any particular local inconvenience; which, nevertheless, gives a most offensive odour to the breath as it passes over its surface. A secretion, also, of acrimonious humours frequently takes place, which is at all times offensive.

The soft palate of the mouth is often the seat of venereal ulcer, and is not unfrequently entirely destroyed. In these cases, an alterative course of mercury, judiciously conducted, with the use of the woods, as sarsaparilla, guiacum, sassafras, and mezerion, is necessary. The local correctors are here to be used often: for, even for a length of time after a cure is effected by these means, the breath long remains in a contaminated state. An artificial palate, where the ravages have been considerable, is often requisite, as the voice suffers in proportion to the injury done; as may be witnessed by the snivelling and rattling noise produced in speaking, drinking, and breathing, of persons thus affected. An ulcer in the throat produces, also, the same disagreeable effects on the breath. These, however, are cases which, during their activity, it belongs to the medical art to counteract; though the nicest attentions are requisite on the part of the individual, to alter the effects by strict adherence to local cleanliness, and the correcting of the tainted effluvia passing from them.



*Weak Lungs.*

Weak and diseased lungs, the consequence of a consumptive tendency, or a putrescency of the fluids after fever and other ailments, also affect the breath. In these cases, correctors of the tonic and aromatic kind, where they are admissible, will conceal in the first, and remove, eventually, in the last, case.

*Smoking and Chewing Tobacco.*

These habits of equivocal luxury give a strong taint to the breath of the individual who indulges in them, as well as habitual drinking. On removing the cause, the effect will generally cease, after a time. But where it is not agreeable to desist from the one or the other practice, the best advice we can give, in these cases, is local purification, where the aroma is likely to prove offensive to a second person, by the constant use, at stated times, of correctors, when approximation renders this state of the breath particularly offensive:—e.g. the gargles and tonic dentifrices, frequent rinsing the mouth, and keeping the teeth clean, and bowels soluble,—these all tend to neutralize,

in a tolerable manner, the unpleasant olfactory sensation experienced by others on inhaling a portion of the offensive vapour. Too much attention cannot be bestowed in this respect, particularly where the comforts of connubial life are worthy of every little consideration.

To correct an offensive breath not depending on any particular internal diseased action, a tea-spoonful of yeast, mixed with a little luke-warm water, is advised; also, about ten grains of powdered charcoal, in a glass of spring water. Soda water or ginger beer, in a high state of effervescence—that is, made with the powders, instead of being drawn from a bottle or the machine, will also produce an excellent temporary effect, where the breath is highly offensive.

About ten grains to a scruple, night and morning, of the best red bark, in a glass of good port wine, continued for a short time, will often remove an unpleasant breath, provided the causes on which it depends be known, and previously removed or palliated.

Women who have borne many children have rather an unpleasant taint of the breath. In

this case, it may proceed from constitutional debility, hysterical affections, indigestion, and other debilitating and concomitant causes. Here the bark and wine, with the addition of any of the tonic tinctures, as gentian, valerian, catechu, carminatives, or the tincture of cardomoms, or spirits of lavender, will correct it.

\* \* \* Smoking frequently relieves the tooth-ache; and some people who never drink wine have been cured by the use of it.—TISSOT.

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### SECT. XIII.

#### THE MOUTH, TEETH, AND BREATH, OF CHILDREN.

THERE are diseases in the early stages of infancy which principally have their locality—that is, they usually manifest their effects in the mouth. Such, for instance, is the thrush. This disease is often of a very serious nature, because attended with pain, inflammation, consequently with a fever, and a dread of taking food.

The apthæ, or eruptions which characterize this infantile disease, principally affect the mouth, fauces, and even the lips. Sometimes they also appear about the verge of the anus; and then, even by practitioners of professed skill, they are supposed to have crept down from the mouth, along the whole of the alimentary canal. This, also, has been pronounced as apthæ in other diseases, particularly the dysentery.

The subjective cause of apthæ is the particular tenderness of the skin of the mouth, and those parts the air has access to, which has no covering of true skin. The exciting cause is partly the cold air, and partly the fermentative acrimony of the child's food in its stomach, which, when thrown or eructated upwards, or even by its steams, irritates, inflames, and ulcerates these tender parts, or produces inflammatory pimples all over them.

In this disease, it is absolutely necessary to attend to the state of the bowels of infants, to empty them of acrimonious matter, to keep the infant warm, to administer the most inoffensive food, when other than the breast is

necessary. As regards topical applications, both emollient and diluent ones have been experienced to be serviceable : e. g.

Borax . . . . 3j = 1 drachm

Honey . . . . 3j = 1 ounce.

Let these be perfectly mixed, and a small piece, according to the age of the infant, laid upon the tongue.

The body should be kept gently open, with magnesia and rhubarb. Mulberry jam is also an excellent and safe local application ; as is also honey of roses.

If practitioners were attentive to the circumstances and stages of this disease, that clearly indicated the application of either emollient or diluent medicines, they would be better employed than in censuring the practice of their brethren.

### *Teething of Children.*

The protrusion of the teeth of children, from the sockets through the gums, generally commences with inflammation and swelling of the gums—slavering—redness of one or both cheeks—watchfulness—disturbed sleep—thrust-

ing the fingers into the mouth—sudden cries—fever—and sometimes convulsions. This is generally a very critical period with children; they are great sufferers during dentition, and frequently require the nicest attention.

The treatment consists, where there is much fever, in giving cooling febrifuges, and keeping the bowels in a lax state; antispasmodics and carminatives, as assafoetida and oil of aniseed, with magnesia, if convulsions arise. If a rash appear on the skin, a few grains of compound powder of contrayerva, with nitre, are usually given. If cough be present, spermaceti, or other pectoral balsams. Leeches and blisters, as the case may require. And, if the disorder be violent, attended with convulsions, in consequence of a tooth or teeth pressing on the fibril of some nerve, the gums may be lanced.

To be brief, all the diseases peculiar to infants are referable to excess of acidity: we, however, except infective epidemics. These diseases are, as in the diseases of all ages, to be distinguished into the ambiguous, the chronic, and the acute.

When the food passages of children are the seat of excessive acidity, their breath is generally hot and strong—their stools become ash-coloured, slimy, and tenacious in their consistence—the belly becomes not only swelled, but feels tense and hard—and the infant becomes convulsed.

Worms are another cause of the fetid breath of children; also, strumous affections—low living, or weak fluids, out of which solids are assimilating, necessarily yield weak solids.

The proper medical treatment consists in acting upon the bowels with such substances as are known to counteract the effect indicated. Rhubarb and magnesia, jalap and calomel, in doses regulated according to the age and constitution of the child. Air and exercise, cleanliness, both as regards the body and the materials with which it is covered, either during the day or during the night.

After measles, small-pox, and other acute diseases, the breath of children remains tainted for some time after their recovery; and it is during this period that the teeth are the greatest sufferers. They rot and decay, by

which the breath becomes more affected ; and, unless extracted, they remain in this condition, corroding those in their immediate vicinity, until they fall out, or are ejected by those which are rising under them. And it not unfrequently happens, that, after children have done cutting their teeth, severe ravages take place among them—they become carious, and decay fast ; and it is during these times they are severe sufferers from the tooth-ache, and fluxions of the gums.

The causes which give rise to this state of the teeth are various. Children of weakly constitutions and ricketty dispositions are more frequently the subjects of these complaints. The teeth of children may also be corroded by strong deposits of tartar on their enamel. The frequent use of sweetmeats, sugar, and the like, is inimical to the teeth of young persons.

In the management of these cases, when they are observed in time, the bowels should be attended to ; and the teeth frequently inspected and cleaned, with some suitable diluent applications. Change from a weak diet



to one more nutritious and strong, and abstinence from those causes on which the ravages made upon the teeth may either wholly or partially depend, are the best means to obviate such effects.

As a corrector in the diarrhœa of children, when there is generally an excess of acidity in the stomach and intestines, and as a strengthener to these parts, as well as to promote stools, in teething, and to correct strong offensive breath, or other febrile disorders, the following may be taken :

Carbonate of magnesia . . .	1 drachm
Rhubarb, in powder . . . .	30 grains
Dill water . . . . .	3 ounces
Aromatic spirit of ammonia . .	25 drops.

Two tea-spoonsful of which, or more, occasionally, may be given, sweetened with a little sugar or syrup, two or three times a day.

The breath of children who are allowed much animal food is always strong; and this indicates an acrimony of the fluids, which is hurtful to their tender constitutions. These children are always taking medicine: if they neglect to do so, tettery eruptions of the scalp,

and other parts of the body, are often the consequence, as well as anomalous eruptions of the skin, febrile attacks, irregular bowels, and slimy and green-coloured stools.

Infants being generally brought into the world without any vice or imperfections in their constitutions, save what is seminal, and allies them to their genitors and progenitors, like the alliance of shape and features, we shall conclude by observing, that they are liable to no diseases but what are owing to inattention, and which, for the most part, may be obviated.

*Singular Case of a Child Teething.*

We relate this case to guard against the improper use of corroding applications, or other substances calculated to destroy the life of a part without benefitting the disease.

There is an account in the *Miscellanea Curiosa* (Obs. 3), of a child of a year old, very emaciated, and of a livid complexion, who in teething had several white ones, and, after some time, a black one came out. The parents were rather surprised at this; but finding that,

during the course of a whole year, it did not incommode the child, they deferred consulting any physician upon the occurrence; but, on perceiving all the teeth on the same side, which came out afterwards, to be black, they called in a surgeon, who, ignorant of the nature of the distemper, scarified the tumour on the gum, upon which, not only the gum itself fell, but the whole cheek ulcerated.

As soon as the surgeon saw these appearances, he desired the relatives to call in a physician, who found the disorder to be a “raging cancer,” with a “horrible ulcer,” proceeding from improper remedies having been applied to the part. Upon this, to palliate the case, he ordered the patient to be put on a cooling diet, the child being hectic, and prescribed some lotions, to gargle its mouth. Notwithstanding all, however, that was done and applied, the cancer extended to the temporal muscle, and the patient died, convulsed.

#### *Acidity in the Stomach.*

Acidity in the stomach is a frequent complaint among children, often arising from too

much or improper food. The least equivocal symptoms are crying, restlessness, drawing up the legs, eructations of a fetid kind, vomiting, hiccup, and green stools. The treatment, then, is calomel purges, with rhubarb; afterwards, small doses of crab's claws or oyster-shells, magnesia, and other antacid preparations.—These correct the state of the stomach; and the best testimony of their success is a pure and untainted state of the child's breath, liveliness, and regularity of the motions afterwards.

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#### SECT. XIV.

##### RECIPES.

##### *A Coral Stick for the Teeth.*

MAKE a stiff paste with tooth-powder, and a sufficient quantity of the mucilage of gum tragacanth: form this paste into little cylindrical rollers, about the thickness of a large goose-quill, and about three inches in length. Dry them in the shade.

The method of using this stick, is to rub it

against the teeth, which become cleaner in proportion as it wastes.

*To Clean the Teeth and Gums, and make the Flesh grow close to the Roots of the Enamel.*

Take an ounce of myrrh, in fine powder, two spoonsful of the best white honey, and a little green sage, in fine powder. Mix these well together, and rub the teeth and gums with a little of them every night and morning. This may also be used diluted in any proper menstruum, as a gargle, in diseased or relaxed uvula, and sore-throat, of the putrid kind.

*Another.*

Dissolve a drachm of cachoe (an Indian perfume) in a quart of red wine, and use it for a mouth-wash.

*For Teeth set on Edge.*

This frequently occurs from various substances, and a most unpleasant feeling it is. To remedy which, chew purslain, sorrel, sweet or bitter almonds, walnuts, or burned bread, and it will be removed.

*A Powder to Cleanse the Teeth.*

Take pumice-stone, and cuttle-fish bone, of each half an ounce; vitriolated tartar and mastich, of each a drachm; oil of rhodium, four drops. Mix all into a fine powder, and use for the teeth.

*To Strengthen and Prevent Scurvy of the Gums.*

Tincture of bark . . . .  $\frac{1}{2}$  ounce  
 Rose water . . . . . 4 ounces.

Gargle the mouth morning and night.

*A Preventive of Tooth-ache and Defluxion of the Gums.*

Having previously rinsed out your mouth with spring-water, take a small tea-cupful of luke-warm or cold water, and add to it a tea-spoonful of the spirits of lavender, and gargle the mouth night and morning.

*Tooth-powder de Madame Maintenon.*

From what authority this has been ascribed to this celebrated lady, we pretend not to say. It is, however, an excellent composition.

Take—Cuttle-fish bone . . . .	$\frac{1}{2}$ ounce
Fine prepared chalk . . . .	$\frac{1}{2}$ ounce
Peruvian bark . . . . .	2 drachms
Florentine orrice-root . . . .	2 drachms
Rose pink . . . . .	1 drachm

Let the whole be reduced to a fine powder, and intimately mixed. After which, it may be scented with ambergris, oil of cinnamon, musk, bergamotte, or other perfume, to the taste.

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## SECT. XV.

### RULES FOR THE PRESERVATION OF THE TEETH AND GUMS.

THE enamel of the teeth is stronger in some persons than in others. When this enamel is destroyed or wasted, either from scorbutic humours or the application of injurious external substances, the tooth cannot long remain sound, and must therefore be cleaned with great caution. For this purpose, the best instrument is a small piece of wood, like a

butcher's skewer, made soft at one end. It is generally to be used alone, dipping it only once a fortnight in a few grains of gunpowder (or a preparation of nitre and charcoal), previously well bruised. These will remove every spot and blemish, where erasures have not taken place, and give to the teeth a beautiful white lustre, where the enamel is sound.

After the operation, the mouth ought, consequently, to be well washed, and rinsed out with some aromatic scented liquor.

### *Imperial Water.*

Take—Brandy . . . . .	1 quart
Frankincense . . . . .	1 drachm
Mastich . . . . .	1 drachm
Gum benzoin . . . . .	1 drachm
Gum arabic . . . . .	1 drachm
Cloves and nutmegs, each	$\frac{1}{2}$ drachm
Pine-nut kernel . . . . .	$1\frac{1}{2}$ drachm
Sweet almonds . . . . .	$1\frac{1}{2}$ drachm
Musk . . . . .	2 grains.

Bruise these ingredients in a marble mortar, distil in a vapour bath, or let them infuse for a sufficient time, and keep what is drawn off in a glass bottle, well stopped. This water



is much celebrated on the continent for whitening the teeth, abating the tooth-ache, sweetening the breath, and strengthening the gums.

\* \* Much easier made by the addition of tinctures and strong waters.

*A Spirituous Tincture, to gargle the Mouth.*

Infuse two ounces of the shavings of guiacum in a quart of brandy, ten or twelve days; frequently, in the interval, shaking the bottle. It is afterwards to be filtered through blotting-paper.

*Spirituous Vulnerary Waters.*

These waters are usually composed of such things as spirituous waters, of various kinds, tintured with cochineal or seed tar, or the like, which are efficacious, either from their tonic or astringent odoriferous properties, in strengthening the parts to which they are applied. As these, however, are all drawn through the still, we shall only name a few of the ingredients, that some idea may be conceived of their composition.

*To make Vulnerary Waters.*

Take fresh-gathered sage-leaves, angelica, worm-wood, savory, fennel, spear mint—of each, four ounces. Leaves of hyssop, balm, sweet basil, rue, thyme, fresh gathered; marjoram, rosemary, origanum, calamint, and wild thyme, fresh gathered—of each, four ounces; and the same quantity of lavender flowers are to be added to a gallon of rectified spirits of wine. The herbs are directed to be cut small, and infused twelve hours; then distilled in a vapour bath, and drawn off into stopper bottles.

How much simpler would be the union of the simple waters of these herbs, the number of which adds nothing to its value above less complicated preparations.

To give the breath an agreeable odour: half an ounce or a tablespoonful of eau de Cologne, may be added to half a pint of spring water; the mouth, teeth, and gums, may be well rinsed, and the throat gargled, with some of it; and a tablespoonful of the same taken invariably night and morning.

Gentian root, chewed constantly, corrects the breath, and gives tone to the stomach.

We must here close our recipes, having given a sufficient number of them to enable our readers to select such as they may conceive best adapted to their cases; assuring them, at the same time, that none of them will do harm.

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## SECT. XVI.

### OBSERVATIONS ON WHAT IS CALLED THE SCALING OF TEETH.

It was always our conviction that any operation of this kind, performed on the teeth, is extremely injurious. The enamel, which before was sound, is often destroyed by the ridiculous and ignorant pretender to impossibilities. If any thing, as tartar, or other delible formations, attach to the teeth, they are to be removed without injury to the enamel, which, once destroyed, can never be repaired but by means of proper dentifrices.

And the following, we will venture to say, will give the enamel all the lustre and whiteness it is capable of receiving, without the use of useless and unnecessary instruments, which never ought to be suffered to touch a tooth, unless for its entire removal, or some intrusive body or disorganized part :—

Take—Soft water . . . .  $\frac{1}{2}$  pint  
 Liquor of potash . . . 1 drachm.

Wash and brush the teeth with these ; and take a quantity in the mouth, and hold it for two or three minutes, to give it sufficient time to act upon the acid at the roots of the teeth.

Those who assert, that in the substance of the teeth there is no sensation, must be deprived of that feeling which others so exquisitely possess. The idea of filing and battering teeth about, with a view to their improvement, is unnatural. We do not recommend practices of this description, unless actual demonstration can be given of their utility. Of

#### *False Teeth,*

we say nothing. They certainly save appearances. They are expensive, attended with

trouble, and are sometimes dangerous to the local health of the gums, by an undue pressure, which these soft parts are unable to resist. Some, it is true, after long habit, may become callous to their use; as false eyes are made, by degrees, to adapt themselves to the sockets of their formerly animated predecessors.

We recommend the extraction of carious teeth, when they are troublesome, and particularly when they are far gone. This is the only way to avoid pain and save expense.

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## SECT. XVII.

### CARMINATIVES,

*Or such Substances as expel Wind from the Stomach,  
and correct Fetor of the Breath.*

IN health, there is always a quantity of air distending the intestines, which is extricated from the food during digestion, or arises from the air passing through the upper orifice of the stomach; producing an unpleasant taint

to the breath, and often affecting the air-cells of the lungs, and consequently laying the foundation of permanent ill-scented breathing. This air, in the generality of cases, is fixed in the feculent matter, and voided, and is of an unwholesome quality, if not corrected.

In a number of cases, a preternatural quantity of air is quickly generated in the intestines, distending them prodigiously, producing great uneasiness, as fainting, sensation of want, and rolling noise in the bowels, which frequently lays the foundation of cholic. In nervous women, whose breath is always more or less affected, this distension of the intestines is sufficient to produce hysterics, nervous headache, convulsions, and spasms of the stomach. Hence the utility of this class of medicines, many of which lose their power soon after being taken, and require to be given largely, and repeated frequently, to do good. The following are the principal:

Seville orange, the outer rind.

Lemon, the same.

Peppermint, the herb.

Spearmint, the same.

Ginger, the root.  
 Anise, the seeds.  
 Smaller cardamoms, the seed.  
 Dill, the seed.  
 Grains of Paradise.  
 Carraway, the seed.  
 Cummin, the seed.  
 Coriander, the seed.  
 Sweet fennel.  
 Mastich, the gum resin.

1. *Carminative of the Outer Rind of Lemon.*

Take—Seville orange-peel . . . 3 drachms  
 Lemon, the outer rind, fresh 2 drachms  
 Ginger, the root . . .  $\frac{1}{2}$  drachm  
 Boiling water . . . .  $\frac{1}{2}$  pint.

Let these infuse for two hours. Then—

Take, of the strained liquor . . .  $1\frac{1}{2}$  ounce  
 Spirit of peppermint . . .  $\frac{1}{2}$  drachm  
 Tincture of lavender . . .  $\frac{1}{2}$  drachm,

and make a draught; one of which is to be taken three times a day.

OBS.—Both the Seville orange-peel and the lemon-rind have an agreeable, warm, aromatic, and somewhat bitter taste, and a fragrant aromatic odour.

The tincture of orange-peel is an useful preparation, for the same purpose.

### 2. *Of Peppermint, the Herb.*

The infusion, or distilled water, of mint is warm and grateful to the stomach, quickly expelling flatulency, and taking off sickness and disposition to spasm. It may be taken *ad libitum*. The dose of the essential oil is two drops to four, in any appropriate vehicle.

Spearmint is somewhat weaker than the former.

### 3. *Of Ginger, the Root.*

Take—Fresh-powdered ginger . . .  $\frac{1}{2}$  ounce  
Boiling water . . . . . 1 pint.

Infuse them, and take occasionally a wine-glassful or two.

Ginger is one of the safest and best carminatives, producing no uneasiness in the stomach, from not containing any essential oil.

Also, the following pills:

Take—Rhubarb . . . . .  $\frac{1}{2}$  drachm  
Ginger . . . . .  $\frac{1}{2}$  drachm  
Syrup, enough to form the mass,



which divide into 30 pills, and take four of them twice or three times a day.

#### 4. *Anise-seeds.*

Take—Oil of anise-seed . . . . 10 drops

Refined sugar . . . . . 1 drachm;

pound them together in a mortar, and add,

Tincture of ginger . . . . 2 drachms

Mint water . . . . . 6 ounces.

Three table-spoonsful to be taken occasionally.

The plant producing the anise-seed is a native of Egypt, Crete, and Syria: what grow in this country are good for nothing. They have an agreeable aromatic odour; and their taste is gratefully warm, with a degree of sweetness. The essential oil contains all their virtues, and may be taken, from two drops to four, in any convenient vehicle, as mint water, pure water, &c., tarturated as above directed, with a piece of sugar.

#### 5. *Of the Seeds of Smaller Cardamoms.*

Take—Compound tincture of cardamoms 1 ounce

Cinnamon water . . . . . 5 ounces.

Mix. Take three table-spoonsful often.

OBS. The tincture of cardamoms is an excellent preparation. It is both tonic and carminative. The best cardamoms come from Armenia and the Bosphorus. The husks should only be separated at the time of using them, as the seeds lose much of their flavour if taken out before.

#### 6. *Of Dill, the Seed.*

The seeds of dill are warm and aromatic, and are useful as an expeller of wind and sweetener of the breath. They may be taken to the extent of a drachm. They are supposed to increase the secretion of milk. Dill is a native of Spain and Portugal.

#### 7. *Grains of Paradise.*

They are powerfully stomachic, and carminative, stimulant, and antispasmodic. Colic, or flatulence of the stomach, may be removed by five grains. Or,

Take—Grains of Paradise, bruised . . . 1 ounce  
Spirits of wine . . . . . 1 pint.

Let them digest for ten days, and then strain.  
Dose, one or two teaspoonsful.

OBS.—Grains of Paradise grow in pods, shaped like unripe figs, and about the size of one; this pod is divided internally into three cells, in each of which is contained two rows of seeds. They have a hot aromatic taste, like pepper, and somewhat like that of cardamoms.

8. *Carraway, the Seeds.*

These are warm and aromatic, are carminative, and have an agreeable smell. Proof spirit extracts all their virtues: the essential oil also contains all their properties. The powder may be taken, from a scruple to a drachm.

9. *Cummin, the Seed.*

Cummin, an annual, is a native of Egypt and Ethiopia, and is cultivated in Sicily and Malta, from whence the seeds are brought to us. They are bitter and warmish to the taste, and have an aromatic disagreeable flavour. They are carminative and stomachic, but are seldom used internally. It is an opinion, that those who drink the infusion of cummin-seed, or wash themselves with it, or, as some say,

who smoke the seed, will have the countenance turn pale.\*

10. *Sweet Fennel—the Seeds.*

These are a native of warm climates, and cultivated in gardens. They are stomachic and carminative. The fumes of the burned seeds, directed into the auditory passage, are said to remove deafness from atony, or want of tone in the auditory nerve.

11. *Mastich, the Gum Resin.*

This grows in Turkey, and other eastern countries, and is obtained by incisions made in the tree. It is an excellent, but neglected, medicine. It is carminative; and purifies the breath, by chewing it and swallowing the saliva; and is highly esteemed by the Turkish and other eastern ladies, with whom it is almost constantly used in this manner.

\* This belief is mentioned by Dioscorides; and we are informed by Pliny, that the disciples of Porteus Latro, a famous master of the art of speaking, were reported to have used cummin, in order to imitate that paleness which their master had contracted by his studies. Horace also makes an allusion to the same subject. (*Epist.* 19, *line* 18.) Vide “*New Lond. Med. Pocket-Book*,” p. 97.

It is recommended in old diarrhœas, spasmodic coughs, asthmas, and hoarseness. It is given in mucilage, or beat up with the yolk of an egg; and is entirely soluble in spirits of wine.

The dose is from ten grains to half a drachm.

Take—pellitory of Spain, the root, in powder . 1 drachm

Mastich . . . . . 1 drachm.

Make two pills, by holding them to the fire; to be chewed in the mouth, and the saliva spit out.

USE.—In odontalgia, and palsy of the tongue.

Or,—

Take—pellitory, the root . . .  $\frac{1}{2}$  ounce

Distilled vinegar . . . 6 ounces

Opium . . . . . 3 grains.

Macerate in a sand bath. Take a spoonful of the strained liquor in the mouth; hold it upon the affected tooth a short time, and afterwards spit it out.

\* \* \* All peppers and cloves produce topical salivation, and are often useful in tooth-ache.

## SECT. XVIII.

POPULAR CAUSES OF TOOTH-ACHE, RHEUMATISMS,  
AND OTHER DISEASES.

THERE is scarcely a complaint in the whole catalogue of human maladies that is not attributed, right or wrong, to cold—"catching cold." A cold, in truth, is almost constantly an inflammatory disease—a slight inflammation of the jaws, bringing on the tooth-ache—or of the throat or lungs—of the membrane lining the internal part of the nose, and the inside of certain cavities of the bones of the cheek and forehead. These cavities communicate with the nose in such a manner, that when one part of this membrane is affected with an inflammation, it is easily communicated to the other parts.

*Symptoms of a Cold.*

The symptoms of a cold are necessary to be known, in order to trace certain diseased actions to their proper sources.

1. The chief cause of *colds* is the same with that which most commonly produces acute diseases—that is, an obstructed perspiration, and a somewhat inflamed state of the blood. Whenever this latter affection seizes great numbers, many colds prevail at the same time.

The symptoms which manifest a violent cold greatly resemble those which precede or usher in similar diseases. People are rarely attacked by great colds, without a shivering and fever, which sometimes continue for many days. There is a cough,—a dry cough, for some time; after which, some expectoration ensues, which allays the cough, and lightens the oppression; at which time, the cough may be said to be matured or ripe. There are very often slight stitches, but unfixed or flying about, with a little complaint of the throat.

When the nostrils happen to be the seat of the disorder, which is then very improperly termed a cold of the brain, it is often attended with a violent head-ache, which sometimes depends on an irritation of the membrane that lines the cavities in the bone of the forehead, or the maxillary sinuses—that is, the cavities in

the jaws. At first, the running from the nose is very clear, thin, and sharp; afterwards, in proportion to the abatement of this inflammation, it becomes thicker, and the consistence and colour of it resemble those of what others cough up. The smell, the taste, and the appetite, are commonly impaired by it, and the breath is hot, feverish, and strong.

Colds seem to be of no certain duration or continuance. Those of the head or brain generally last but a few days; those of the chest, longer. Some, nevertheless, terminate in four or five days: if they extend beyond this term, they prove hurtful:—

1. Because the violence of the cough disorders the whole machine; and particularly by forcing up the blood to the head.

2. By depriving the person afflicted of his natural rest, which is almost constantly diminished by it.

3. By impairing the appetite, and confusing the digestion, which is unavoidably lessened by it.

4. By weakening the very lungs, by the continual agitations from coughing; whence



all the humours being gradually carried towards them, as the weakest part, a continual cough subsists. Hence, also, they become overcharged with humours, which grow viscid there; the respiration is counteracted and oppressed; a slow fever sets in; nutrition almost ceases; the patient becomes very weak; sinks into a wasting, with obstinate wakefulness and anguish, and often dies in a short time.

5. By reason that the fever, which almost constantly accompanies a great cold, concurs to wear the body down.

Wherefore, since a cold is a disease of the same kind with quinseys, pleurisies, and other inflammations of the chest, it ought unquestionably to be treated on the same principles. If it be a violent one, blood should be taken from the arm, which may considerably shorten its duration; and this treatment becomes the more essential, as well as in violent tooth-aches, which call for the same practice, whenever the patient is of a sanguineous ruddy complexion, is plethoric and full of blood, accompanied with a strong cough, and great head-ache.

In these cases, after the preceding treatment

has been premised, the body should be opened with cooling laxatives; and perspiration promoted by means of copious draughts of mild diluents. At bed-time, the feet may be bathed in warm water, and ten grains of Dover powder taken. The patient ought now to observe a spare and mild regimen. This treatment equally applies to colds of the head, chest, or teeth, where the symptoms run high.

*To appease violent Pains in the Teeth.*

Burnt brandy, spiced wines, or other spirituous liquors, as drams and malt liquors, are injurious in all affections arising from colds. People labouring under these complaints ought not to expose themselves to violent cold weather, if they can possibly avoid it; and they should equally guard against too excessive a heat. Those who shut themselves up in hot rooms never get quite cured; and how is it possible they should be cured in such a situation? Such rooms, abstracted from the danger of coming out of them, produce colds and tooth-aches in the same manner that drams

do, by producing a slight inflammation in the breast or jaws.

There are many erroneous prejudices with regard to colds, all of which may be attended with pernicious consequences. The first is, that a cold is never dangerous ; an error which proves fatal to many.

No one, however, it is certain, dies merely of a cold, as long as it is nothing worse than merely a simple cold ; but when, from inflammation and neglect, it is thrown upon, and occasions distempers of the breast, it may, and often does, prove mortal. *Colds destroy more than plagues*, was the answer of a wise and experienced physician to one of his friends, who, on being asked how he was in health, replied, “ Very well,—I have nothing but a cold.”

A second erroneous prejudice is, that colds require no means, no medicines, and that they last the longer for being nursed or tampered with. The last assertion may, indeed, be true, with respect to the method in which the person affected with them treats them ; but the principle itself is false. Colds, like other disor-

ders, have their proper remedies ; and are removed with more or less facility, as they are conducted better or worse.

A third mistake relative to colds is, that they are not only considered as not dangerous, but as even supposed wholesome, too. Doubtless, a man had better have a cold than a more grievous disease ; though it must be better to have neither the one nor the other. The most that can be said and admitted on this point, is, that when a checked or obstructed perspiration becomes the cause of a distemper, it is fortunate that it produces rather a cold than any very dreadful disorder, which it frequently does ; though it were to be wished that neither the cause nor its effect existed.

A cold constantly produces some disorder or defect in the functions of some part or parts of the body, and thus becomes the cause of a disease. It is, indeed, a real disorder itself, and which, when in a violent degree, makes a very perceptible assault upon our whole machine. Colds, with their defluxions, considerably weaken the chest, and, sooner or later, materially impair the health.

Persons subject to frequent colds are never strong or robust, any more than those who are the subjects of frequent head-aches. They often sink into languid disorders ; and a frequent aptitude to take cold is a proof that their perspiration may be easily checked and restrained ; whence the lungs become oppressed and obstructed, which must always be attended with considerable danger.

Tissot, and after him Buchan, recommend bleeding, when the tooth-ache proceeds from an inflamed nerve ; and afterwards to gargle the mouth with barley-water, or milk and water. And when the affection is occasioned by cold humour, he directs the patient to be purged with only one ounce of powdered nitre divided into sixteen equal doses ; which has sometimes perfectly cured very obstinate attacks of this sort ; and, after purging, to drink what is commonly called a decoction of the woods : namely, of china root, sarsaparilla, and others.

After a violent attack of the tooth-ache, people should be careful to avoid that cold and moist air which disposes them to a relapse ; also, all draughts or currents of air,

whether from windows or doors ; and carefully to guard against getting the feet, shoulders, or neck wet. Free exercise in the open air is a much better preventive than confinement in warm or close apartments.

Tooth-ache is so frequent in this climate, and is so often attended with serious and painful effects, that in closing our observations, we shall lay down some rules for avoiding it, which at the same time will serve to guard against common colds, which not only produce it, but also severe fits of rheumatism, headaches, and sore throats.

When a person, in cold weather, goes out into the open air, every time he draws in his breath, the cold air rushes through his nostrils and windpipe, or through his mouth, over the teeth and gums, into the lungs, and consequently diminishes thus suddenly the natural heat of those parts. Now, as long as the said individual continues in the cold air, he experiences no bad effects from it ; but as soon as he returns home, he approaches the fire to warm himself, and not unfrequently takes some warm drink, to “ keep out the cold ;” the very way to fix a cold in the head, and bring

on a tooth-ache, or an affection of the lungs, occasioned solely by the sudden change promoted in the temperature of the parts, by the incautious use of heat, locally and internally ; though a gradual approach to it would have obviated such effects.

Hence the following rule ought to be carefully observed : viz. when the whole body, or any part of it, is chilled, restore it to its natural temperature by degrees, and never suddenly, if you wish to avoid any of the preceding enumerated effects of cold. It should be remembered, that with both there are usually slight fever and pain in the head ; and therefore, notwithstanding the numerous popular remedies we have laid down in the preceding pages, it should be remembered, that the proper treatment is, to indulge a little in a moderately warm atmosphere, to live abstemiously, and, in conjunction with more active means, if found necessary, to regulate the bowels. Unless the atmosphere be moist, or the cold particularly severe, no one with tooth-ache, unless the symptoms are extremely violent, ought to remain within doors the whole of the day.

## SECT. XIX.

SWEET-SCENTED BAGS TO WEAR ABOUT THE PERSON; OR TO PLACE AMONG LINEN AND OTHER WEARING APPAREL.

THERE are peculiarities of constitution which give out certain smells or effluvia, by means of the perspirable pores of the skin, of so unpleasant and disagreeable a nature, as to prove highly offensive to the delicate olfactories of those with whom we are obliged, from relative position, or other causes, to be more closely in contact with at times than others; and which even the nicest arts of ablution cannot remove but for a very short time; but which may be corrected or neutralized by sweet-smelling herbs: e. g.

*An agreeable sweet-scented Composition.*

Take—Florentine orrice . . . .	1½ pound
Rosewood . . . . .	6 ounces
Calamus aromaticus . . . .	⅔ pound
Yellow saunders . . . . .	¼ pound
Gum benzoin . . . . .	5 ounces
Cloves . . . . .	½ ounce
Cinnamon . . . . .	½ ounce.



Beat the whole into a powder, and sow some of it up in little thin Persian bags, about four inches wide, and wear one or more about the person, or in the bosom, near the armpits or stomach.

Or,

Take—Rose-leaves dried in the shade ;  
Cloves beat to a gross powder ; and  
Scraped mace.

Mix, and sow up as before.

The principal ingredients for these little bags or satchels are as follows:—

AROMATIC PLANTS, as—

*Leaves* of Southernwood

Dragon wort

Balm of mint

Dittany

Ground ivy

Bay,—hyssop

Lovage,—sweet marjoram

Origanum,—penny royal

Thyme,—rosemary

Savory, scordium, and wild thyme

*Flowers* of Orange, lime, and citron tree

Lily of the valley

Close gilly-flower

Wall-flower, jonquil, and mace

*Fruits*.—Aniseeds, and others

*Rinds* of lemons and oranges

*Roots* of Acorns

Bohemian angelica

Oriental cassia

Sweet flag

Orrice

Zedoary, &c.

*Woods* of Rhodium

Junchu, Cassia, St. Lucia, saunders, and  
others.

*Gums*, as Frankincense

Myrrh,—storax

Benjamin,—labdanum

Ambergris, and amber.

*Barks*, as Canella alba

Cinnamon, and others.

Obs.—Care must be taken that these several ingredients be perfectly dry, and kept in a dry place. To prevent their turning black, add a little common salt. When it is wished to have any particular flavour predominant, a greater quantity of that ingredient must be used, so that it may predominate over the others.

## SECT. XX.

SWEET-SCENTED TROCHES, TO CORRECT AN  
UNPLEASANT BREATH.

Take—Frankincense . . . . .	1 scruple
Ambergris . . . . .	15 grains
Musk . . . . .	7 grains
Oil of lemon . . . . .	6 drops
Double-refined sugar . . . . .	1 ounce.

Form these ingredients into little troches, or lozenges, with mucilage of gum arabic, made with cinnamon-water; one or two of which may be held occasionally in the mouth, where they may be suffered gradually to dissolve.

Scented soaps and wash-balls, of various compositions, may be procured at the perfumers; which, being used in the usual ablutions, instead of the common soap, will assist in purifying strong or bad odours, from whatever cause they may arise. Those who have any open chronic sores, ought to employ these and such means to correct the effluvia known to arise from such sources.

## SECT. XXI.

PREPARATIONS FOR NEUTRALIZING OR DESTROYING  
THE NAUSEOUS SMELL OF SICK ROOMS, OR FOR  
RENDERING THE ATMOSPHERE OF CHAMBERS  
SALUTARY AND AGREEABLE.

PREPARATIONS for any of the above purposes  
are made in the form of certain concentrated  
fluids, or in substances, as pastiles, and are  
found useful as well as agreeable on many oc-  
casions : e. g.

*Acetic Acid.*

This is common vinegar, divested of its  
impurities by passing over a still. The steam  
is beneficially inhaled in putrid sore-throats.  
When vinegar is employed to fumigate the  
chambers of the sick, it should be boiled in  
glazed earthenware pipkins, and passed about  
the bed. It is also, in a pure state, snuffed  
up the nostrils, in faintings, head-ache, &c.

*Aromatic Acid.*

This is commonly used as an odorament,

and is an elegant improvement of the *vinagre de quatre voleurs*, or the well-known Marseilles vinegar, used as a disinfecting agent by four noted thieves, who handled the corpses during the time of plague with impunity.

*Camphorated Acetic Acid.*

This preparation is powerfully analeptic and stimulant. Its vapour, snuffed up the nostrils, is one of the most powerful stimulants we are in possession of. It is with difficulty preserved, except in glass vials, with ground-glass stoppers, on account of its volatility. It is employed externally in fevers, to remove disagreeable odours about the patient's chamber, by sprinkling a few drops on a linen rag, and placing it near the bed.

*Nitric Acid.*

In a state of vapour, nitric acid is also employed to destroy contagion.

## SECT. XXI.

CHLORURET OF THE OXIDE OF SODIUM, AND THE  
CHLORURET OF LIME, &c.

A VALUABLE discovery has recently been made in the art of improving the atmosphere of sick rooms, by M. Labarraque, an able French chymist. The substances alluded to are the chloruret of the oxide of sodium, and the chloruret of lime. These preparations are found to have greater power in destroying putrid and offensive effluvia, arising from animal matter in a forward state of decomposition, than any agents previously known ; and they admit of being used extensively, and are capable of being applied with equal facility and success.

*Mode of using them.*

In typhus fever, putrid sore throat, measles, and other infectious diseases, the apartment of the patient is to be freely sprinkled with

diluted chloruret of lime, twice a day, or oftener, if the disease be very malignant, or the apartment unusually confined. Sometimes, also, it is advisable to leave a small quantity, or a pint or two, exposed in a dish, or in a bason, in the sick chamber. And where many persons are living in the same house, or the disease is particularly rife, it may be proper to sprinkle the adjoining apartment and passages with the same liquid.

*To make the Chloruret of Lime.*

One part of the concentrated chloruret is directed to be mixed with thirty parts of water—that is, about half a pound of the concentrated salt to fifteen pints of water.

*To prevent Putrefaction in Dead Bodies.*

To check or prevent putrefaction, previous to interment, one part of chloruret of lime is to be thoroughly mixed with forty parts of water, and the clear liquor poured off; and with this liquid the entire surface of the body is to be freely sprinkled, by means of a watering-

pot, or after any other convenient manner, where such an utensil may not be at hand. This sprinkling is to be repeated two or three times a day, according to the degree of temperature and degree of putrefaction. Should the putrefaction of the body be far advanced, or the period it is intended to be kept be considerable, it would be better to envelope it in a sheet, moistened with this conservative solution, and frequently to renew the moisture. By these means, all putrefactive odour in the apartment may be destroyed.

Such, indeed, is the known disinfectory power of these chlorurets, that a corpse, in full putrefaction for three days, and exhaling, at forty paces around it, the most fetid odour, was instantly disinfected, and all unpleasant smell removed; and this under the scorching sky of St. Domingo, where putrefaction advances with amazing rapidity, and is accompanied with the most intolerable stench.—Hence their inestimable value in ships, lazarettos, and other places where contagion is to be dreaded.

The chloruret of the oxide of sodium may



be used with equal success, in the same manner as the chloruret of lime, and diluted with water in similar proportions. It is proper, however, to remark, that in no case ought the use of these inestimable preparations to supersede strict attention to cleanliness and free ventilation of the sick apartment.

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## SECT. XXII.

### TO MAKE AROMATIC FUMIGATING PASTILES.

As disinfecting agents, those enumerated, particularly the chlorurets last named, are superior to any other preparations, where aromatics, such as herbs, do not destroy contagion, though the latter may so modify the effluvia arising from animal or vegetable matters going into decomposition, as to protect the olfactories, at least, against their nauseous attacks. These are made of various ingredients, of an odoriferous and balsamic nature—as:—

Gum benzoin	Storax
Aloes	Labdanum
Musk	Civet
Ambergris	Myrrh
Balsam of Peru	Rosewood
Saunders	St. Lucia wood
Cinnamon	Gum tragacanth.

*Essential Oils, as—*Oil of rhodium  
 Bergamot  
 Oil of lemons  
 ——— orange flowers  
 .——— roses.

*Simple Waters, as—*Rose water  
 Angelica water  
 Cinnamon water.

These, and the like, are compounded, and reduced to a mass, to form pastiles ; which may be thrown on hot embers, or live charcoal, in the middle of the apartment, or in the halls or stair-cases, whence an agreeable and highly-scented odour exhales its most fragrant particles.

*Example.*

Take—the best labdanum . . .	2 ounces
Gum benzoin . . .	2 ounces
Storax . . .	$\frac{3}{4}$ ounce
Dry balsam of Peru . . .	$\frac{3}{4}$ ounce
Myrrh . . .	$\frac{1}{2}$ drachm
Olibanum . . .	1 drachm
Liquid balsam of Peru . . .	$\frac{1}{2}$ ounce
Ambergris . . .	$\frac{1}{4}$ ounce
Musk . . . . .	1 scruple
Civet . . . . .	1 scruple
Essential oil of rhodium . .	30 drops
Essential oil of orange flowers, lemon, and bergamot, each	4 drops
Gum lac, in powder . . .	$2\frac{1}{2}$ ounces
Cascarilla, aloes, rose, and St. Lucia wood, yellow saun- ders, and cinnamon, all powdered, each . . .	1 drachm.

All these ingredients were at one time directed, by the assistance of a vapour-bath, to be reduced into one homogeneous or uniform mass, and made into pastiles.

The recipes of the old perfumers, like those of the ancient physicians, consisted of a great number of ingredients, many of them analogous in properties and effects. Modern im-

provements have, however, reduced these, with more certainty of producing a certain effect, to one third or one fourth of the former number.

The above is doubtless a valuable composition, and would do justice to the exquisite olfactories of oriental grandeur, luxury, and magnificence. These may revive and refresh the languid and emaciated debauchee to new acts of salacity, and render more effeminate the luxuriously indolent; but they are comparatively less salutary to pure atmospheric air, which restores the florid colour and stimulus of the blood, the *pabulum vitæ*.

Pure air renders the blood fitter to repair the waste of some of the most important solids and fluids; it is the medium by which the body preserves its due temperature; it assists the circulation; and enables the whole animal economy to divest itself of substances hurtful both to life and health. Fresh air, indeed, is recommended by the faculty of medicine, as a circumstance of first-rate consideration in the regulation of the healthy functions by which animal life is supported.

Exercise, no less than pure air, contributes to the circulation of the blood and the discharge of the healthy functions; and serves to repel unwholesome atmospheric influences. A brisk circulation animates the whole man. Deficient exercise, and close confinement, or long and continued inactivity, weakens the circulating medium—relaxes the muscular fibres—diminishes, if it does not extinguish, vital heat—checks the insensible perspiration—hurts digestion—and ægrotises the whole frame, laying it open to the attacks of numerous invaders in the shape of disease, and leaving it without the means of defending itself against those perilous and destructive intruders.

THE END.



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